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SOUTHWESTERN MEDICINE

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Back to "Civvies"

Granted that it may be a bit premature to begin definite planning as to what we'll do after the war, nevertheless it harms no one to indulge in hopes and tentative schemes for improvement. Many physicians in the armed services have found that the role of the medical officer differs greatly from that of the civilian practitioner. And they have had cause to speculate as to the difficulties likely to confront them when they shed their uniforms for "civvies" after the enemy is beaten. Perhaps it is not too early to lay plans, at that. At any rate, we rather like what the editor of California and Western Medicine has to say:

The exigencies of modern day warfare, both at the front, and sometimes even in bombed civilian areas, are not such as make possible the carrying on of medical service with all the facilities, conveniences and hospital accessories, usually in vogue, in and under peacetime environments and conditions.

Consider, also, whether it may not be possible, should the armed forces need their services, that recent graduates may be called into service without intern training? Years ago, there were few of such internships, and yet the people lived!

And if changes as have been outlined above could become operative, may it not be profitable for organized medicine to study plans whereby colleagues in military service—when they return from military duties—will have made available to them opportunities for 3, 6, 9 or 12 month refresher courses in medical schools, designed to permit them again to take up and with greater ease, the problems of civil practice?

The Federal Government, during recent years, has been providing facilities and money grant-in-aid for analogous instruction to physicians who have been preparing themselves for public health work. When the war is over, a grateful Government might well consider a similar procedure, and reward the physicians who will have kept its armed forces fit for service at the front. To some readers, this may seem to trench somewhat into the domain of state medicine. If that be so, then organized medicine itself may wish to be called upon to provide the funds for such work. At the present time, who knows? Are not such post-war medical problems worthy of consideration?

Sino-Bronchial Disease

It has long been known that infection of the paranasal sinuses sometimes leads to subsequent involvement of the tracheo-bronchial tree. Many workers in the fields of rhinology and internal medicine are aware of the problem thus posed, and have devoted study to it. Egbert[1] recently reviewed "Sino-bronchial" disease, concluding that the condition called for cooperation between the rhinologist and the internist. To the author's assumption that infected material inhaled from the upper nasal passages into the trachea is part of the mechanism of the disease should be added two other possible pathways. Extension of the infection from sinus to bronchi may take place along the lymphatic route, and also via a submucous path, from venule to venule. With at least three avenues open, it is remarkable that more cases of stubborn infection do not develop as a complication of sinus disease, which affected some 1,150,000 persons in the United States in 1935-36[2].

Egbert states that "early diagnosis of sino-bronchial disease, ascertaining the underlying

cause and making an effort to eliminate it before permanent damage is done, is as desirable as a diagnosis of incipient tuberculosis or of cancer in the operable stage." The author further points out that "The incipient stage is tracheitis, first acute and then subacute manifested by the dry, incessant, spasmodic cough. The moderately advanced stage is the involvement of the entire bronchial tree. There is more aggravation of cough, prolonged fits of the dry cough in turn exciting a bronchorrhea until a vicious circle is attained. This stage is subacute in character. With this stage the exacerbation may subside for days, weeks or months, when a new flare-up will again put the patient through the same cycle." Permanent changes may come in the bronchial mucosa, with purulent exudates appearing. Areas of atelectasis may ensue, or there may follow adhesive pleuritis or a chronic severe cough, contributing to the development of bronchiectasis. Allergy plays a definite role in the disease, which is to be expected in a "chronic pulmonary disease that produces cough, expectoration, loss of weight and energy, general asthenia and anemia—a clinical picture that first suggests tuberculosis."

The author has done a timely piece of work in bringing to attention this rather common disease. Wisely he says "surgery (of the sinuses) is not self sufficient, and the case must be managed by the internist for months to follow from the immunological and allergic view points."

(1) Egbert, Orville E.: Sino-Bronchial Disease, Tex. St. J. of Med. 37:651, (February) 1942.
(2) Estimates of the National Health Survey (1935-36)

Prescott Session

Elsewhere in this issue will be found the program for the Annual Session of the Arizona State Medical Association, to be held this year at Prescott.

Beginning on Monday, May 25, the House of Delegates takes up its deliberations. A full agenda is to be considered. The first scientific session is scheduled for Wednesday, May 27.

Among out-of-state speakers are:

1. **DR. LEROY U. GARDNER, Director, The Saranac Laboratory of The Edward L. Trudeau Foundation, Saranac Lake, N. Y.**
2. **DR. HOWARD P. HOUSE, Los Angeles, California. Diplomate American Board Otolaryngology.**
3. **DR. E. CUMMINGS, Ph. D., Director, Division of Industrial Hygiene, University of Colorado Medical School, Denver, Colorado.**
4. **DR. WM. A. BOYCE, Professor of Ophthalmology, College of Medical Evangelists, Loma Linda, Los Angeles.**
5. **DR. A. J. RIDGES, Salt Lake City.**
6. **DR. FRANK HINMAN, Clinical Professor of Urology, University of California Medical School, San Francisco.**
7. **DR. VERNE C. HUNT, F. A. C. S. Clinical Professor of Surgery, University of Southern California Medical School, Los Angeles; Diplomate American Board of Surgery.**
8. **DR. HENRY STANLEY ROGERS, Petaluma, California. President, California Medical Association. (Representing the American Medical Association and the National Physicians' Committee.)**
9. **DR. NOBLE WYLIE JONES, Portland, Oregon. Clinical Professor of Medicine, University of Oregon Medical School.**
10. **DR. HOMER L. SAMPSON, Saranac Lake, N. Y. Director of X-ray Laboratory of the Trudeau Sanatorium.**

Several hours are to be devoted to aspects of the physician's role in the war. The type of presentation known as the symposium is employed throughout the sessions, wherever practicable. Subject matter of some of the symposia will be: Arthritis; Silicosis; Urological Conditions in Women; Eye, Ear, Nose and Throat in general practice. Arizona members will take part, along with the guest speakers. Various luncheons will be held by the sections. The last sessions on Friday evening will be open to the general public.

In these uncertain days it behooves the doctor to strive harder than ever to keep himself professionally fit. This is no time to fold the hands and rest one's case on laurels acquired in the past. This is no time to get lazy or despair of the future. More than ever, the American physician must attend his scientific meetings, must devote time to learning the new and reviewing the old. It becomes, then, almost a duty to attend one's state meeting. A great deal of work and planning has gone into the making of this year's Arizona program—it must not be wasted.

Dr. E. Payne Palmer of Phoenix will be installed as president of the Association, succeeding Dr. W. P. Holbrook of Tucson. Host to the Prescott session is Yavapai County Medical Society, whose president is Dr. Florence B. Yount. The lovely city of Prescott, in northern Arizona, provides a splendid setting for this year's War Session. Those of us in the service of Uncle Sam, as is this writer, envy our friends and colleagues in their opportunity to attend this meeting. Our thoughts and good wishes will be in Prescott from May 25-29. God speed!

Congenital Dislocation of the Hip

(Its Incidence in New Mexico)

FRANK C. GOODWIN, M. D.
and
DAVID M. CAMERON, M. D.
El Paso, Texas

CONGENITAL dislocation of the hip shows a racial tendency. We have found it fairly frequently among the Spanish-American population in the State of New Mexico. We wish to report this incidence as we have found it at the Carrie Tingley Hospital for Crippled Children: we wish to include a review of the literature and present the signs and symptoms. The follow-up period has been too short to give accurate results, but, we would like to offer a few suggestions that we have found succesful in the care of these unfortunate individuals.

REVIEW OF LITERATURE

Congenital dislocation of the hip has been treated in the United States for at least a half century. The New York Ruptured and Crippled Hospital records an open reduction of this condition performed by Hoffa on September 28, 1891. A year later on October 28, 1892 this hospital records Gibney's first class reduction and tenotomy of the adductor muscles of a congenitally dislocated hip. It was not until 1902 that Lorenz and Mueller made their sensational trip through several large clinics in the United States demonstrating their "bloodless" method of reduction of congenital dislocation of the hip. At the turn of the century this affliction was just beginning to become amenable to treatment. Of these cases about 15 per cent were considered satisfactory.

Since these early attempts there have developed different schools of thought on the care of these patients. Putti at the Institute of Orthopedico Rizzoli reported that in 2556 dislocations seen over a period of twenty-nine years, only 4 per cent have been treated by open operations. He likewise reports that 90 per cent of the single and 65 per cent of the double dislocations have led a satisfactory functional and anatomical result. Yaeger, Galland and Freiberg in this country have been advocates of the closed method and have added ingenious methods of treatment.

On the other hand, there are those who strongly advocate open surgery. Galloway states that his cases must not have been previously manipulated. Kidner, who believes that most cases should be operated upon, states that of 34 hips that he opened, all had five obstacles to reduction. These were that there was closure of the acetabulum by the lower leaf of the capsule; that the round ligament filled the acetabulum when the hip was reduced; that there was a relative difference between the acetabulum and head of the femur; that the roof of the acetabulum was sloping; and that there was an antiversion and shortening of the femur. Most of the series report an average, a better hip following open reduction; however, Kidner states that the most perfect anatomical results follow closed manipulation. The anatomical results following open operation are rather surprising. Roberts reports that changes in the femoral head following open and closed reduction were 64 per cent and 60 per cent respectively. Acetabular changes were seen in 25 per cent and 40 per cent of open and closed reductions respectively.

In 1926 the men at the New York Orthopedic Dispensary and Hospital believed that more surgery should be done on this condition. A similar conclusion was reached in 1935 following a symposium on cogenital dislocation of the hip. Here, it was reported that 44 per cent and 84 per cent of closed and open reductions respectively, were successful. The conclusion was reached that the closed method was the method of choice up to two and possibly three years of age, and that forceful methods were dangerous. One man stated that he believed the Lorenz method was responsible for many hopeless cripples.

In 1935 Steindler *et al* presented some logical conclusions in the treatment and care of congenital dislocation of the hips. He believed that the European operators, who for the most part, advocated the closed methods were too optimistic about their results. He has found that the results became progressively worse as the period of observation became longer. In other

words, the end result should not be tabulated until after the patient has stopped growing, and this result should be compared with the functional result of individuals who have never been treated.

In regards to the open method of treatment, he states that it does not offer a panacea for all cases, and that it should be a supplement, not a competitor to the closed method. He believes that open surgery should be done on the primary irreducible and primary irretainable hips. Finally, he states that only patients up to eleven, and preferable to eight years of age, are ammenable to open surgery. He offers a ray of hope to the old cases by stating that in many patients, with sufficient subjective and objective symptoms, simple shelving and osteotomy will improve their disability.

It can be seen that the results of treatment are improving largely because the laity is becoming acquainted with the condition. Mothers are bringing their children in for more frequent check-ups, giving the orthopedic surgeon a chance to diagnose and treat the condition earlier, and, the more violent methods are now being replaced by gentler manipulation and surgery.

SIGNS AND SYMPTOMS

The signs and symptoms of congenital dislocation of the hip are so constant that a clinical diagnosis can often be made before x-rays are taken. The mother usually gives the first clue by noticing that one or both legs are held in external rotation, or else that one leg is used more freely than the other, or that there is a shortening of one leg. A careful examination in the unilateral cases will show the affected leg to have an increased number of skin folds on the inner side of the thigh, this leg being held in external rotation. The inguinal and gluteal creases are deepened on the affected side and the gluteal muscles are atrophied. The greater trochanter is more prominent on this side. With dexterity it can frequently be determined by palpation that the head of the femur is out of the acetabulum. Finally, the affected leg appears shorter. Freiberg states that this can be determined by placing the patient in the supine position and flexing the knees on the thighs. Occasionally the femur can be felt to telescope with axial pressure. When the Trendelenburg sign is positive the diagnosis can usually be certain.

The pelvis in bilateral cases appears unusually wide due to the prominence of the greater trochanters. The thighs are separated on the inner sides. There is an increased lordosis with a bilateral flattening of the buttocks, and forward displacement of the body axis. The waddling gait is almost pathognomonic of bilateral dislocation of the hips. Jaeger adds that there is a crackling when the legs are abducted and in this position there is an apparent shortening of the legs.

X-rays are diagnostic. Freiberg has gone so far as to suggest that prophylactic x-rays be made of all newborns.

INCIDENCE

The Latin races seem to have the highest incidence of congenital dislocation of the hip. Putti and others state that there are many cases in Northern Italy and Southeastern France (Basque Country), but that this condition is rarely seen in Southern Italy, and is almost unknown in Sicily. The Nordics and Negroes are relatively immuned to this affliction. We wish to point out that the Spanish-American is susceptible to congenital dislocation of the hip. Over a period of four years at

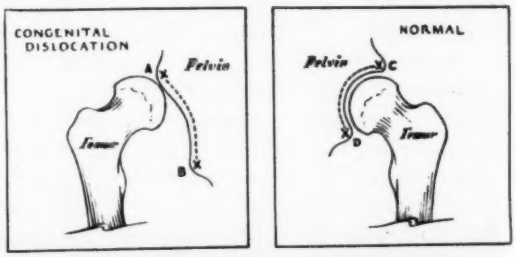


Figure 1. Dislocation of the right hip. Schematic insets show that the circumference of the acetabuli are the same, the difference being in the shape; i. e., A-B is the same length at C-D.

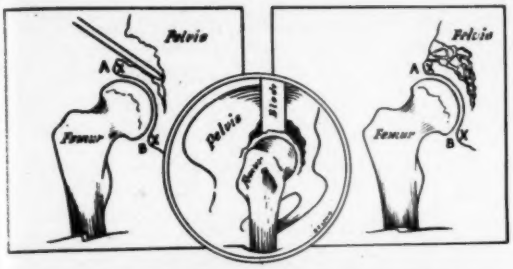


Figure 2. Same hip after reduction with well-leg traction and surgery. Schematic insets show entire upper edge of the acetabulum being turned down and held with bone chips.

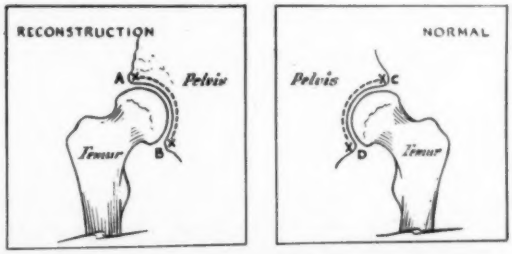
the Carrie Tingley Hospital there have been 727 admissions. Of these 26 or 3.5 per cent had a congenital dislocation of the hip. The incidence of 9.1 per 100,000 Spanish-American population should be compared with 17.9 per 100,000 population in Bordeaux, France as found by Adams. Our figure of 1.7 per 100,000 Anglo population is roughly comparable to Adam's figure of 3.8 per 100,000 population in New York. It is interesting to note that most of the Spanish-American children with this condition were nearly pure Spanish. This appears to indicate that an Old World condition is being carried over into the New World.

We have found a ratio of females to males of about four to one; this is lower than the incidences reported by others. The youngest patient in which a diagnosis was made and treatment started was one year of age. The oldest was twelve years of age. The mean average age was six years. There were seven (27%) operations.

SUGGESTIONS

We merely have suggestions to make in the care of these patients because our cases are still too recent to report results. We are strong advocates of gentle manipulation up to the age of eight years. Some of our cases have shown exceptional results when treated even at this late date. Our second suggestion is in regards to surgery. We have no hesitancy in operating upon any case if we believe it is either primarily irreducable or irretainable. The first criterion is determined at the first manipulation. The second criterion in most cases can be determined at the first manipulation and in all cases when the cast is changed. Those hips wherein the femur slides in and out of the acetabulum with but minimal effort are usually primarily irretainable. The type of surgery to be done on these cases depends on the individual case. We have had no experience with cases over twelve years of age so we cannot state at what age surgery should be discontinued. We first attempt to bring the head of the femur opposite the rudimentary acetabulum with well-leg traction. The actual surgery has consisted of either merely replacing the femoral head in the acetabulum after removing the obstructions to reduction and incidentally, these obstructions are those found by Kidner, or else making an adequate acetabulum by a shelf operation.

It is this type of shelf operation that we



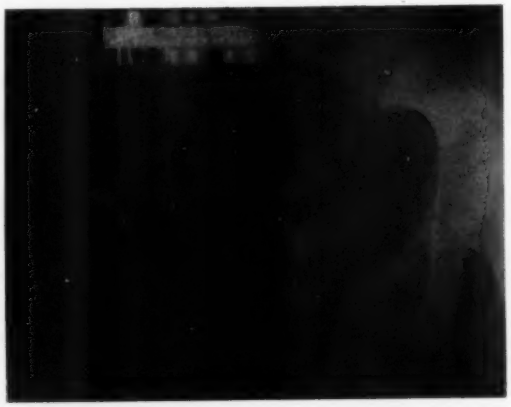


Figure 3. Same hip eighteen months post-operative. Schematic insets show that A-B and C-D remain of the same length.

comment upon. Many children that have been operated on in well recognized hospitals have been seen in our out-patient department. Almost invariably the shelves have been found inadequate because they are too high and are oblique in the wrong direction. Frequently the shelves have absorbed to almost nothing. We realize that these are the poor results from other hospitals, but they have afforded us a lesson. We make our shelves low at the acetabular margin. In the x-ray of the pelvis, the length of the two acetabuli are the same, the difference being only in the contour. By putting an osteotome behind this elongated acetabulum, the cartilage can be made to fit over the head of the femur. This is held in position by bone chips taken from the outer table of the ilium (fig. 1 & 2). Traction is maintained on the leg until the newly formed acetabulum is completely solid.

SUMMARY:

1. The recent literature has been reviewed.

2. The signs and symptoms have been presented.

3. The Spanish-American child shows a high incidence of congenital dislocation of the hip. Most of these children are of nearly pure Latin ancestry.

4. We have made suggestions as to the care of these patients, with particular attention to the surgical interference.

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TABLE I. TABLE OF INCIDENCE

	Total	Anglo	Span. Amer.
Population State of New Mexico	527,000	290,290	237,510
Total Admission C. T. Hospital	727*	314	411
Cong. Dislocation of the Hip C.T.H.	26	5	21
Incidence per Admission	3.5%	1.6%	5.1%
Incidence per 100,000 Population	4.9	1.7	9.1

* Two negroes

TABLE II.

DISTRIBUTION OF CONGENITAL DISLOCATION OF HIP

Youngest	1 year
Oldest	12 years
Mean Average Age	6 years
Males	5
Females	21
Number of Operations	7

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Correlation of the Pathology of Coronary Occlusion

J. P. SIMONDS, M. D.

Chicago, Illinois

EVERY disease has its morphologic, or structural, basis. In some diseases, such as lobar pneumonia and cancer, the structural changes are easily demonstrated and can be readily correlated with their clinical manifestations. In other diseases, the structural changes may not be demonstrable, but the morphologic basis of the disease is present in anatomical structure, none-the-less. The morphologic basis of disease is a solid foundation upon which to build, or a point of departure from which to formulate, a useful and working concept of the functional, chemical and clinical picture of any particular disease.

It is from this point of view that we propose to study coronary occlusion. The use of this

(From the Department of Pathology, Northwestern University Medical School)

Read before Southwestern Medical Association, El Paso, November 20-22, 1941.

method began as an experiment in teaching Pathology to Sophomore medical students, and has been tried out repeatedly on older members of the medical profession. The course of the disease has been charted and its various manifestations have been platted as on a map. Ignoring those rare and somewhat questionable cases of occlusion of otherwise normal coronary arteries, it may be said that the earliest and basic change in this disease is atherosclerosis of the arteries which supply the heart. A chain of events follows this initial change which may lead to no serious consequences or which may initiate a complete closure of the lumen of one of these vessels with its disastrous effects on the myocardium and on the patient.

ATHEROSCLEROSIS

Atheroschlerosis of any artery begins as isolated multiple foci of edema of the intima, followed by fatty and lipoid degeneration, necrosis and calcification. The calcification often involves the media and is therefore like the Moenckeberg type of sclerosis. The swelling of the intima may, of itself, close the lumen of the vessel, but more commonly, the final occlusion is the result of the formation of a thrombus at the atherosclerotic patch in the wall of the artery.

The immediate effect of the final closure of a branch of a coronary artery, as seen in experimental ligation of such a vessel in animals, is cyanosis and bulging of that portion of the myocardium supplied by the occluded vessel. The blood flow through this portion of the myocardium ceases and the muscle rapidly becomes necrotic. Once the occlusion is complete the ultimate results depend upon several factors: the size of the vessel whose lumen is closed, the portion of the myocardium involved, the balance in the distribution of the two coronary arteries, and the management of the patient.

Usually the first manifestation of closure of a branch of a coronary artery is excruciating pain. However, in nearly fifty per cent of cases pain is either absent or is only a minor symptom. It may be mistaken for pain due to other causes just as pain due to other causes may be mistaken for that resulting from coronary occlusion. Pain in coronary occlusion is generally believed to be due to ischemia of the heart muscle, just as intermittent claudication is related to ischemia of the muscles of the leg.

Occlusion of a small branch of a coronary artery may be symptomless. It is not uncommon at post-mortem examination to find scars in the myocardium of patients who gave no history of anything that could be recognized clinically as coronary occlusion. That portion of the heart muscle whose blood supply has been cut off by coronary occlusion is quickly rendered functionless. Since this lesion most frequently occurs in a branch of the left coronary artery, the closure of a large branch may be accompanied by a fall in systemic blood pressure. The fall in pressure may be so precipitate and so marked that death intervenes almost immediately. On the other hand, if fatal hypotension does not occur, the ischemic portion of myocardium within two or three days becomes softened by autolysis and rupture of the heart wall at the site of the infarct may result in intrapericardial hemorrhage and immediate death. This usually occurs 48 to 72 hours after the closure of the vessel. Even slight exertion that causes a sudden rise of intraventricular pressure, predisposes to rupture of the heart wall. It is for this reason that absolute rest is essential to the proper management of patients with coronary occlusion during this particular ,dangerous period of the disease as well as throughout its more acute phases, of the first few weeks.

Occlusion of the transverse branch of the left coronary artery near its place of origin is particularly dangerous. In addition to the dangers already described, closure of this branch results in necrosis of the large posterior papillary muscle. Infarction of this portion of the myocardium interferes with the function of the mitral valve, so that to weakening of the wall of the left ventricle there is added the complication of mitral insufficiency.

CONGENITAL ANOMALIES

Schlesinger has recently called attention to the effect of congenital anomalies in the distribution of the two coronary arteries. Normally the left coronary artery supplies the anterior wall of the left ventricle and the anterior portion of the interventricular septum through its descending branch and the posterior wall of the left ventricle through its transverse branch; while the right coronary artery supplies the wall of the right ventricle and the posterior part of the interventricular septum. In some patients the right coronary artery is small and short and does not reach to the interventricular groove. The transverse branch of the left coronary

artery then supplies the posterior wall of the left ventricle and the posterior portion of the interventricular septum. Occlusion of such an anomalous transverse branch will deprive a much larger than normal amount of myocardium of its blood supply and will therefore be more dangerous to the life of the patient than the closure of such a branch with a normal danger to the patient than closure of a vessel with the usual distribution. Some very quickly fatal cases of coronary thrombosis may be due to closure of such an anomalous artery. There is a possibility that the electrocardiogram may enable the cardiologist to recognize clinically the anomalous distribution of the coronary arteries before occlusion takes place. At present this cannot be successfully done.

REPAIR EFFORTS

After the period in which the danger of imminent rupture of the ventricular wall has passed the remarkable process of adaptation in the crippled heart begins. A localized aseptic fibrinous pericarditis develops over the site of the infarction of the myocardium and the parietal pericardium becomes adherent to the surface of the heart. At first this attachment is loose, but with time organization of the exudate results in a firm fibrous adhesion which protects against further danger of rupture of the ventricular wall.

Necrosis of that portion of the myocardium deprived of its blood supply reduces the mass of functioning heart muscle. This naturally leads to deficient force in systole and lowering of systemic blood pressure. When the left ventricle is involved it is unable to keep blood brought to it moving in the normal amount and at the normal rate. Congestion and edema of the lungs with dyspnea are the inevitable result. This passive congestion and edema are, in some manner, a safety mechanism in that the lungs act as a sort of reservoir or "flood chamber" which protects the damaged left ventricle against a greater amount of blood than it is capable of handling.

While this passive congestion of the lungs may protect the heart against a greater amount of blood than it can handle, it has other undesirable effects. The chief of these is the reduction of the vital capacity of the lungs, that is, of the greatest amount of air that can be expelled after the deepest possible inspiration. The actual normal vital capacity varies, obviously, with the size of the individual, but has been found to equal approximately 2.46 liters per square meter of body surface in men, and 2.07 liters, in women. The ratio between the quantity of air remaining in the lungs after an ordinary expiration and the total amount of air that the lungs are capable of containing is normally 2 : 5. In pulmonary congestion these two quantities tend more and more to become equal, which means that with increasing degrees of congestion, the available air space in the lungs is gradually reduced to a level nearer and nearer to their total functional capacity. As a consequence, the functional reserve of the lungs is reduced and there is a constant liability to the occurrence of dyspnea under any conditions requiring increased pulmonary ventilation.

VITAL CAPACITY AND DYSPNEA

At least three factors are concerned in the reduction of the vital capacity of the lungs and the production of dyspnea. In the first place, the capillaries in the alveolar walls are distended with blood, they become wider and more tortuous, the alveolar walls themselves are thickened and the space available for air in the lungs is reduced. The total alveolar space is further decreased by the accumulation in many alveoli of phagocytic cells which have engulfed red blood cells that have escaped in small numbers from the distended capillaries into the air sacs. These cells contain hemosiderin, an iron-containing pigment, and are the "mitral cells" or "heart failure cells" found in the sputum of patients with cardiac decompensation. In the second place, congested lungs lose much of their normal distensibility and elasticity. Greater force is required to expand them during inspiration and they collapse less readily and less completely in expiration. The force which causes expansion of the lungs is a fraction of the atmospheric pressure approximately equal to the negative pressure in the thoracic cavity. During quiet respiration by normal lungs this negative pressure ranges between 5 and 9 mm. Hg., but can be increased by deep inspiration to 30 to 40 mm. Hg. The lower pressures mentioned are quite sufficient to fill with air the alveoli of the light, soft, delicately spongy, easily expansible normal lungs. The resistance to distension of the lungs in passive congestion is increased. Therefore, a greater pressure is required to drive air into the heavier, firmer, more coarsely spongy, less expansible congested

lung. This augmented pressure can be obtained only by increasing the negative intrathoracic pressure by intensified inspiratory effort. Not only is the inspiratory effort enhanced but, because the congested lung has lost much of its elasticity and does not collapse of its own accord, the expiratory process ceases to be automatic and passive. The expulsion of some of the air requires the active conscious participation of the muscles of expiration. This, then, is the mechanism by which dyspnea is produced in left ventricular failure due to coronary occlusion.

While the reduced vital capacity of the lungs and dyspnea are both accompaniments of passive congestion of the lungs, the decrease in vital capacity is not the basic cause of the dyspnea. Fundamentally they are both due to the same cause, namely, to the reduced distensibility of the lungs which increases the difficulty of augmenting the quantity of air inhaled and expelled during each inspiration and expiration whenever there is an increased need for greater pulmonary ventilation. In extreme cases of congestion even orthopnea may develop. The vital capacity of the lungs of normal persons is less in the recumbent than in the upright position. When, after coronary occlusion, the decreased distensibility of the lungs and the decreased vital capacity reaches such a degree as to produce marked dyspnea, then orthopnea may also develop.

PULMONARY EDEMA

The mechanism of production of pulmonary edema in coronary occlusion is far from clear. The mechanisms which account for the occurrence of subcutaneous edema in cardiac decompensation and in nephritis do not appear to operate in edema of the lungs. In both cardiac and nephritic edema the chief factor is an imbalance between the hydrostatic pressure which tends to force fluid out of the capillaries and the osmotic pressure of the plasma proteins which tends to hold fluid in the blood. In nephritic edema the hydrostatic pressure remains normal while the osmotic pressure of the plasma proteins is reduced. In cardiac edema it is the hydrostatic pressure that is altered. The normal osmotic pressure of the plasma proteins is about 25 mm. Hg. and the hydrostatic pressure must exceed this level before edema results, or even before fluids can escape from the blood into the tissue spaces. Wiggers found that the systolic pressure in the pulmonary artery averaged 44 mm. Hg. and the systolic pressure averaged 12 mm. Hg. The pressure in the pulmonary veins is zero or thereabouts. Hence the hydrostatic pressure in the alveolar capillaries is probably below that of the osmotic pressure of the plasma proteins. This may account for the fact that there is no exchange of fluids between the blood in the pulmonary vessels and the tissue spaces, which in these organs, would be the alveoli themselves. It appears likely, therefore, that alterations in the permeability of the endothelium of the capillaries of the lungs may be the essential factor in the mechanism of pulmonary edema in coronary occlusion. Passive congestion is known to increase the permeability of endothelium. Whatever the mechanism of production of pulmonary edema, it adds greatly to the difficulties which are associated with the passive congestion due to coronary occlusion.

In both congestion and edema there is disturbance of exchange of gases in the lungs between blood and air. Oxygen does not diffuse through membranes and fluids as readily or as rapidly as does carbon dioxide.' Oxygen is less soluble than carbon dioxide which combines with water to form carbonic acid, a very soluble substance. There is, therefore, a greater disturbance of the exchange of oxygen in both pulmonary edema and congestion than of carbon dioxide. In congestion the column of blood in the capillaries in the alveolar walls is much thicker than normal. The red blood cells in the central portion of this column of blood are therefore separated from the source of supply of oxygen by a relatively considerable distance and the oxygen saturation of the blood in the pulmonary vein may well be below that of normal arterial blood. This condition is aggravated or accentuated in pulmonary edema.

CYANOSIS

In cardiac decompensation due to coronary occlusion, also, cyanosis sometimes results. This condition is related to the amount of reduced hemoglobin in the blood. In order for cyanosis to occur there must be about 5 grams of reduced hemoglobin per 100 c.c. of blood, which is equivalent to about 20 per cent unsaturation of capillary blood. In the cardiac decompensation of coronary occlusion, the systematic circulation is slowed so that the blood remains in the

capillaries within the tissues for a longer time, and loses a greater amount of oxygen, that is, the amount of reduced hemoglobin is increased in the venous blood. Since oxygenation of blood in the lungs in coronary occlusion, associated as it is with pulmonary congestion and edema, is interfered with, the blood in the lungs does not become completely oxygenated. The result is that in extreme cases the amount of reduced hemoglobin in the blood may equal or exceed the 5 grams per 100 c.c. required for the production of cyanosis. This is the mechanism by which cyanosis develops in coronary occlusion.

EFFECTS OF INFARCT

Other derangements of heart action in coronary occlusion depend upon the size and location of the infarct. To compensate for its inability to deliver the normal amount of blood with each systole, the heart tends to beat faster than normal, so that tachycardia is not an uncommon manifestation of coronary occlusion. Arrythmia, heart block and auricular fibrillation may also occur depending upon the location and size of the infarct of the heart muscle. Many of these alterations in function are demonstrable in the electrocardiogram.

If the infarcted region extends to the endocardium a mural thrombus forms over the site of damage. This thrombus may give rise to emboli which are swept into the systemic circulation to find lodgement in various parts of the body. Usually these do no irreparable damage unless an embolus lodges in a vessel of the brain.

Very soon after infarction of a portion of the myocardium liquefaction of the necrotic tissue begins. The products of autolysis are absorbed into the general circulation and stimulate the bone marrow to produce greater numbers of polymorphonuclear leucocytes thus giving rise to the leucocytosis so characteristic of coronary occlusion. These products of autolysis also cause disturbance of heat regulation and fever results.

As recovery progresses, the necrotic heart muscle is gradually replaced by fibrous tissue by the process of organization. This strengthens the heart wall at the site of weakness with supporting but non-functioning tissue. The heart is thus permanently damaged by coronary occlusion and its functional reserve is reduced. Because of this there is dyspnea on slight exertion and varying degrees of disability. Futhermore, this scar in the heart wall, is of sufficient size, will bulge with each systole producing a cardiac aneurysm which is usually readily demonstrated in X-ray films. The function of the left ventricle, in which infarcts of the myocardium are most frequent, is hampered by such an aneurysm. A part of the force of its contraction is wasted in distending the aneurysmal sac. However, the remaining portion of the damaged ventricle undergoes hypertrophy. This increases to some extent the efficiency of the heart, diminishes the dyspnea on exertion and increases the capacity of the patient for work. But such a heart is permanently crippled, the greater part of its functional reserve is irrevocably lost and the patient is constantly in danger of the onset of cardiac decompensation. This latter condition may develop suddenly to be followed by unexpected death; or more slowly with the usual clinical picture of pulmonary congestion, dependent edema and a slower type of death.

Thus a patient with coronary occlusion may pass through a stage of acute danger from sudden and marked fall in blood pressure or from rupture of the heart wall and intrapericardial hemorrhage. If the patient survives this stage of the disease, the infarct in the heart wall heals by replacement with scar tissue and he may live fairly comfortably for years, but he is always a possible victim of sudden or gradual cardiac decompensation. The proper management of such a case requires not drugs but sympathetic guidance in the formulation of a mode of life that will protect the crippled heart against emergencies and avoidable stresses and strains of this modern world.

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Stasis as a Factor in the Chronicity of Non-Specific Upper Urinary Tract Infections

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PERSISTENT upper urinary tract infection, or chronic pyelonephritis is characterized by either one or both of two readily recognized clinical features. First, the most common, is pyuria and bacteruria varying in degree from time to time in the same individual and presenting more definite and significant variations in general, according to the type of infecting organism, i. e., bacillary infections tend to produce more pronounced findings than those produced by coccal infection, the latter, at times, being so trivial that they may be completely overlooked in an ordinary routine urinary study. A second clinical feature of chronic upper urinary tract infection is recurrent attacks of acute exacerbations usually with localizing signs directed to one or both kidneys. Attention should be directed to the fact that frequently when patients are examined between attacks they are free from any evidence of urinary infection, cystoscopic findings and urine cultures are negative; however, after weeks or months an acute recurrence presents itself. Following the removal of foci of infection and with the development of a natural immunity, these patients usually completely recover. These are examples of a negative phase of the infection or, more logically, reinfection by available bacteria from infectious foci.

The primary onset of kidney infections, as in infections in general, is a contest between the inhibiting properties of the tissues invaded by bacteria and the virulence of the invading organisms, a decrease or increase of one of these properties will decide whether infection is to occur. The chief factor in lowering protective resistance to kidney tissue is mechanical or functional interference to normal elimination by this kidney.

That infection occurs, at times, in otherwise clinically normal kidneys there can be no doubt, when one considers the great number of renal infections that either spontaneously disappear, or rapidly respond to oral medication without leaving a trace of their former presence, or any evidence of renal or ureteral post-infection dysfunction. Complete urologic study, including visualization of the upper urinary tract is usually normal under these circumstances. The factors primarily responsible for such infections obviously must be concerned with the dosage or virulence of the invading organisms, or by some unrecognized and probably temporary breakdown of the normal tissue protective mechanism. Beer has suggested that it is conceivable that unrecognized physiological anomalies are just as important in localization of infections within the kidney as the well recognized stasis producing anatomical anomalies.

CHEMOTHERAPY

The epoch making advances in chemotherapy of non-specific urinary tract infections have markedly reduced the incidence of chronic pyelonephritis and ureteritis. Clinical observation and analysis of results in the management of any large material, however, with this device alone, will reveal a large percentage of unsuccessful results. In the first place approximately ten percent of the patients will be intolerant to the drug, or will be unable to fulfill the necessary requirements for obtaining the optimum benefits of its use. Even with a good tolerance and other known requirements satisfactory there is a considerable group of failures after adequate dosage of the various drugs and their derivatives over long periods.

Just as stasis any place along the urinary tract is an important factor in the cause of primary localization of bacteria within the urinary tract, it likewise is generally known to be a major cause of persistent and continuous infection. In the presence of known urinary stasis at any point along the urinary tract, associated with infection, observers with only limited experience soon appreciate the futility of long continued oral and local chemotherapy as a means of sterilizing this urinary tract. To be sure, these infections can be held in abeyance by such methods but will almost invariably return to their former status as soon as chemotherapy is withdrawn. Reports of complete sterilization in the presence of minor degrees

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of stasis have been made, but these should not alter the general understanding of the situation.

COMMON TYPES OF OBSTRUCTION

With persistent infection, unsuccessfully treated by adequate chemotherapy, obviously attention should be directed to further examination of the entire urinary tract to reveal the absence or presence of urinary stasis any place along its entire course. Conservative procedure would be the use of intravenous urography which is sufficient for only a very small percentage of these patients in properly visualizing the upper urinary tract, while this method at no time reveals the status of the lower urinary tract, nor does it permit the determination of the presence of infection from one or both kidneys by microscopic study and culture. Complete cystoscopic study is almost invariably eventually done and in my experience should be the primary procedure, thus eliminating the time and expense necessitated by the use of a preliminary intravenous urographic study.

It is not within the scope of this discussion to enter the unsettled field of ascending urinary infection, but it is pertinent to observe that bladder residual urine predisposes to persistent renal and ureteral infection even when there is no appreciable stasis above the bladder.

In passing, mention only can be made of the various long standing bladder neck obstructions and neurogenic bladder disturbances resulting in infection which often involves the ureterovesical valve structures, leading to ureteral reflux. Upper tract infection under these conditions is rarely cured even after successful management of the original offending structure.

Time permits but to mention intravesical lesions producing unilateral or bilateral ureteral obstructions, with corresponding stasis, such as bladder tumor, diverticulum, stone and carcinoma of the uterine cervix before or after irradiation causing infiltration and fibrosis of the bladder floor. Extraurinary masses either neoplastic or chronic inflammatory within the peritoneal cavity or retro-peritoneal can produce urinary stasis by mechanical pressure or by interference with normal ureteral or pelvic peristalsis.

Ureteral strictures, acquired or of congenital origin, are common offenders in this connection and may be readily recognized by proper cystoscopic study combined with urography.

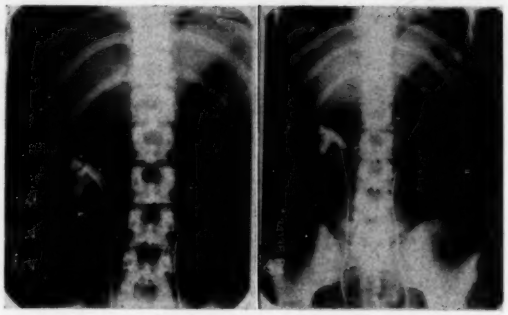

Figure 1. Retrograde pyelogram of a seventeen-year-old girl with right sided pain, at times dull, also sharp and sudden—no radiation. Symptoms followed trauma of lifting. Urine shows streptococcus viridans. Ureterolysis and nephropexy was done 5 years ago and her symptoms and urinary findings have not been completely relieved.

Note almost complete occlusion of infundibulum of upper calyx. No doubt the symptoms are those of hydrocalyx. The first operation was not only not completed but probably not indicated. Resection of upper pole should have been done then and may have to be done eventually. Urine still infected.

Periureteritis resulting in adhesions is a most common cause of ureteral stenosis by causing actual periureteral constriction or by the formation of kinks and displacements.

Congenital anomalies have long been recognized as a cause of upper tract stasis, but their numerical importance is constantly increasing with the more general improvement in the type and number of proper examinations which may reveal their presence. Let it suffice to mention congenital stricture at the ureterovesical or ureteropelvic junctions, valves at the ureteropelvic junction, anomalous insertion of the ureter to the pelvis, ectopic ureteral opening, ectopic kidneys, the various types of renal fusion and last but not the least important, anomalies of the renal blood supply.

Appreciable stasis without evidence of obstruction must not be overlooked, neither should it be forgotten that these are frequently bilateral and probably represent a neuro-muscular imbalance of congenital origin. It is needless to say that this diagnosis should not be made until all the available diagnostic facilities have been used to discover mechanical obstruction.

At this point should be stressed the importance of a considerable group of chronic bilateral kidney infections, having a varied bacterial origin and characterized chiefly by tortuosity and marked ureteral dilation. The typical ureter is dilated irregularly throughout and often presents the appearance of multiple constrictions. It is not regularly possible to ascribe the irregular dilatations to constrictions,

but rather to the result of chronic inflammation and scar formation of the ureteral wall. The greatest dilatation of the ureter is usually of the upper third. There may or may not be pelvic dilatation while the calyces are usually constricted and irregular in outline.

This ureteral dilatation is largely the result of chronic inflammation, but secondary constrictions from scarring may result in added irregular dilatation by this mechanical obstruction. Thus is developed a stasis both mechanical and functional associated with bilateral infection in which a bacterial cure should rarely be expected. Ureteral dilatation by instrumentation, together with chemotherapy may control progress of the lesion and thus tend to prevent surgical complications such as pyonephrosis; however, a complete cure is never affected and such patients should be under observation and management indefinitely. When the infection is under control and both ureters open to fair sized bougies throughout, the patient carries on usually without clinical incidents year after year, but always with the knowledge that clinical observation is imperative and with the unknown hazard of a possible gradual decrease in renal function.

The purpose of this preliminary discussion is to direct attention to some of the more common factors concerned with the production of urinary stasis and their known tendency to sometimes primarily cause and regularly to maintain upper urinary tract infection.

Figure 2. Typical diverticulum of a calyx. This one contains several small stones. Stones were removed once before by nephrostomy. Resection of the cyst is indicated before cure can be expected.

INFUNDIBULAR INFECTION

I wish now to call your attention to a heretofore not commonly recognized lesion of the renal calyces which makes for stasis of urine and localized infection of a corresponding segment of the renal parenchyma. These lesions are characterized by infective changes of an obliterative type, localized predominantly to one calyceal infundibulum, but other calyces may be similarly involved to a lesser extent. Acording to Hyams and Kenyon this infundibular constriction may terminate either in complete destruction and disappearance of the involved calyx or in its isolation from the true pelvis by an impervious barrier. Progress in this direction may be slow, during which time persistent infection is present, and when the constriction has reached nearly occluding levels a suppuration of this calyx may occur.

The mechanism of the formation of this lesion is extension of infection to the submocosa of the infundibulum even to the peripelvic structures with resulting fibrosis and constriction. The observation has been made that there is a congenital basis for this series of events, in that all the infundibula of the kidney involved are congenitally narrow. The importance of this observation cannot be assayed at this time, but certainly it cannot be universally so, otherwise there would not be such a preponderance of one calyx involvements.

A microscopic study of the associated parenchyma reveals inflammatory infiltration and fibrosis, resembling in every important respect a pyelonephritic contracture which involves the whole kidney. There is usually a clear line of demarcation recognized grossly from the external surface of the kidney. This optical differentiation naturally will depend upon the stage of the process when the observation is made.

In the presence of such an infection produced localized stasis in patients who have other stone forming conditions we should expect to find stones within the obstructed calyx at times. This is precisely what occurs and the combination of stasis and stone makes an even more impossible local infection to influence conservatively than the stasis alone.

Recurrence of renal stone in the same calyx from which one has been removed by neph-

rostomy is not an uncommon observation. The presence of infection and stone or stone alone, so localized, should be viewed with suspicion of infundibular narrowing and pyelograms routinely made to reveal the condition of this draining area. Should evidence of infundibular stricture be definitely revealed, the removal of such a stone by nephrostomy obviously is an incomplete operation which will shortly be followed, in a large percentage of cases, with recurrence; if infection is present with the stone, it continues regardless of the type of chemotherapy used or the amount or kind of pelvic lavage given.

Infundibular strictures have been noted with stones in the calyces beyond, where a planned operation of nephrostomy and mechanical dilatation of the stricture have been carried out, at times even with a large drainage tube down into the pelvis through the dilated area. These operations are frequently unsuccessful and if the patients are followed by successive pyelograms, a recurrence of the constriction may be seen to occur, at times rapidly and more pronounced than when first observed.

To acquire a bacteriological cure under these circumstances the involved calyx and corresponding parenchyma must be removed if technically possible. From observation, the upper or lower major calyces are most commonly involved in these processes which allows for successful renal resection unless the parenchymal involvement has become too extensive. With multiple calyceal involvement nephrectomy is indicated as the complete destruction of the kidney is obvious in a progressive inflammatory process over which there is no measure of control. The end result of this continued process with its peripelvic and pericalyceal infection and fibrosis is complete destruction of the kidney tissue.

PYELOGENIC CYST

Diverticulum of a calyx or pyelogenic cyst, a lesion undoubtedly of congenital origin, is characterized by a narrow opening from the tip of a calyx, which leads to a smoothly lined dilated bulbous cavity. These local conditions may be found not associated with infection, but the very nature of the lesion predisposes to infection which does not respond to medical treatment. It is conceivable that such infection may become deep-seated resulting in parenchymal and pericalyceal fibrosis similar to that of the previously described process. As an incidental finding, not associated with infection, they are of no clinical importance, but when infection occurs they are susceptible to all the complications of the infection produced lesions, i. e., stone formation, suppuration and continued infection with fibrosis. When any one of these complications has taken place the treatment is surgical and should consist of renal resection which includes the entire cyst.

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Psychoneurosis in General Practice

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EVERY era through which mankind has passed has had its characterizations, the appellations differing with the specialized interests and knowledge of various groups. Our present day may be thought of as the Dictator Era to the politically minded; the Era of Materialism and Neo-Paganism to the clergy, and the Machine Era to many a worker. This, of course, does not mean that there have not been dictators, materialism and machinery before but that for one reason or another these phases so color present living and so usurp present thinking that they seem particularly true of this period.

Our present-day forces of civilization are so numerous and conflicting that man finds himself too often in a state of perplexity, and in need of readjustment. Theories are rampant. He is offered panaceas for his religious, educational, emotional, financial, physical and political life. He samples most of them in an effort to find the proof thereof. The result is a figurative sour apple which he finds great difficulty in assimilating. This lack of assimilation takes the form of dubious aches and pains to which the medical man must listen and we all know of the legion of fakirs with their sure-fire remedies, to whom he may turn for relief.

So, for numerous reasons, we have the Age

of Neurosis. Many a man's emotional life may be found very much at variance with his intellectual life, and since the results of this variance have become a major social, economic and physical problem, a greater understanding and a more sympathetic and efficient treatment of the problem seems very much needed.

Neurotics, like the poor, have always been with us, but today we are more conscious of them than ever before. Though our information is still meager enough it is sufficient to enable us to understand something of the causes of the neuroses and to permit us to treat them, and to obtain favorable results.

Medical science has long been working to better man's lot; to make his life a longer, healthier one, and I think there is no argument that man's mental adjustment is an extremely important factor toward such accomplishment. Therefore, it is every physician's duty to give attention to this rather neglected field and incorporate it in his general practice. This he *must* do if he is honestly interested in obtaining maximum results.

THE NEUROTIC PATIENT

The general practitioner, in his contacts with psychoneurotic patients, frequently considers them a sort of nuisance. They bring to him a set of vague complaints which may be expounded with an almost endless variety and for which he can find no physical basis. Unfortunately, as often as not these patients are actually turned away from the physician's door.

If the physician gives the neurotic any time at all, he may, after a casual examination, strike off a prescription for a sedative, placebo, or tonic. Usually these produce no favorable result and soon the patient drifts on to other physicians or eventually, perhaps, to the irregular practitioner. Or the physician may respond to his patient's set of vague complaints with some such unsympathetic or thoughtless remark as, "You're crazy. There is nothing wrong with you. You just imagine you're sick." Such a reply is a confession of the doctor's complete lack of understanding of the case, for there could be nothing further from the truth than his offhand diagnosis. The patient is *not* crazy. There *is* something wrong with him and he does not just imagine it. These people are genuinely ill. Their symptoms are very real to them.

The patient is thus turned away from the licensed and otherwise reputable physician's door. The physician suffers a loss of revenue as well as some loss of faith in his ability. The patient then may shop around from doctor to doctor with no better results. Frequently he is forced into the hands of the irregular practitioner or psychic faddist. The care he receives there is worse than none at all and in the end he is fortunate if he avoids chronic invalidism. The only one who seems to profit is the incompetent cultist whose purse is filled with the harvest reaped from what the regular practitioner has cast aside.

It has been said* that each year $125,000,000 is spent in this country on the irregular practitioners and the cultist. This, together with $375,000,000 spent on patent medicines makes a total of more than $500,000,000 annually. An appalling sum! A large part of this $500,000,000 is spent by the psychoneurotics in their search for relief. It is easy to see that if a portion of this immense amount of money which passes into the hands of the irregular practitioner and vendors of patent medicines were to be distributed among general practitioners, they would be generously compensated for careful, sympathetic care of these unfortunate persons. Both patient and physician would benefit greatly.

There are, of course, some mitigating factors in the situation. The average physician, during his years of medical training, receives only a smattering of psychiatry, and as general thing, he is offered little opportunity to get acquainted with the psychoneuroses. He, therefore, enters his practice with a definite handicap in this direction. A definite handicap and a major one considering that a large percentage of his patients will present functional disorders, rather than distinctly organic entities.

For several decades past our medical schools have dealt primarily with physical hygiene. It would appear that a reasonable amount of energy and teaching could and should be expended in the field of mental hygiene as well. Because, whether he likes it or not, the general practitioner has the task of caring for these nervous and mental problems thrust upon him. How well he meets the task depends upon his training and experience in this field.

*Morris Fishbein, M. D., N. E. J. M., 11-12-36.

Needless to say most of the neuropsychiatric problems first present themselves to the general practitioner. If the question of handling mental problems were to be left to the neuropsychiatrists of the country, they would only be able to scratch the surface.

It has been said that fifty percent of the patients who come to the family physician are psychoneurotics. Surely this is a large enough percentage to warrant better training and more consideration from him. If half of sick humanity is to receive anything like adequate care, it is up to the man in general practice to tackle the problem. If he will take a more active interest in them and lend a more sympathetic ear to this type of patient, he will be well repaid.

The least he can do is to be a good listener and listening is one of the first considerations in treating these individuals. Every physician accepts in a measure the role of personal counselor to most of his patients. This will be nothing new to him. Then with a little more study, a little more patience, and by assisting the patient in analyzing his experiences the average physician can usually handle the emotionally unstable quite satisfactorily. The psychoneurotic patient demands that he be given an audience. He wants the opportunity and the time to completely unload his grief and woes.

Up until recent times, the average physician has looked upon psychiatry and psychotherapy as some mystical pseudo-science. In reality this branch of medicine is nothing more than a compound of common sense, average medical knowledge and some faculty for medicine as an art. Given an average medical background, the general practitioner need not hesitate to offer the neurotic patient simple psychotherapy.

TREATMENT

The treatment of the psychoneurotic patient resolves itself into an attempt to get the patient to understand why he is as he is, or how "he got that way." So far as treatment of the average patient is concerned, the therapeutic approach must be simple and straight-forward; the more specialized techniques being reserved for the more obscure cases where simple measures such as frank discussion and suggestion are of no avail. First, of course, a careful physical examination is essential, then the removal or treatment of any organic factors or foci of infection. The possible influence of the endocrines is to be kept in mind and special examinations, such as basal metabolism, electrocardiogram and serological examinations are to be used when indicated.

Medication is of very limited value. Narcotics and bromides should be avoided, and hypnotics are rarely necessary. If one feels that some simple bitter tonic or placebo is indicated, it should always be used with the thought in mind that the effects will depend upon the potency of the psychotherapy offered with it.

Rest cures or sanatorium care may be of value, primarily because they remove the patient from his usual environment and perhaps permit him to get a new slant on certain problems. Also, under such conditions the physician's psychotherapy may get across to somewhat better advantage. Considering how little we know of special diets and their influence on functional disorders it is difficult to see how rigid dieting could produce any favorable changes. Also, again there is danger that the patient may accept this regime as sound evidence that he is a very sick person.

After a careful check and elimination of any physical factors, the remainder of the treatment comes under the heading of psychotherapy. Again, there is nothing mysterious about this. In bringing his troubles to the physician, the psychoneurotic shows a certain confidence and hope that he will be given relief. He has perhaps visited many physicians in the past without results. His illness persists, but he still has hope. All this is a decided advantage to the physician if he wishes to seize the opportunity. Let him lend a sympathetic ear and give the patient plenty of time to unload his troubles and in many cases the problem solves itself. Regardless of the type of therapeutic approach, the aim in psychotherapy is to reestablish in the patient a sense of reality; to get him to view his problems rationally and to meet them in broad daylight.

This feeling of confidence, which first brings the patient to the physician must be carefully guarded and protected. His complaints and symptoms must not be treated lightly. The simple fact that he is given the opportunity to describe and discuss his difficulties is, in itself, a definite therapeutic help. This constitutes what we call aeration. The fact that he goes over and over certain painful situations of the past tends to knock off the sharp edges. Finally

he may come to the point where discussing these formerly painful situations no longer produces any emotional tension. Thus, he may be desensitized.

Throughout this procedure, the physician acts merely as a good listener, perhaps occasionally throwing in a question or a little suggestion. Later, as he becomes more familiar with the situation, he may add more definite suggestions. What is required then in handling these cases that a little sympathetic understanding, study, training and horse sense will not give the average physician?

CASE REPORT

I have in mind a man who is forty-three years of age and who complains as follows: "I am nervous. I can't stand up to the job. My neck is sore; I guess it is arthritis. I worry a lot. Something feels tight inside me. I get so jittery I am afraid I am going to lose my mind. Life doesn't seem to be worth much to me any more."

He is married and has four children. He is a salesman, traveling over several counties in one of our southwestern states. His business is good; he enjoys his work, except that he plays out easily and for periods of several days at a time he doesn't feel able to get out and tackle the job. His difficulties began in 1931.

The first symptoms were aches and pains in his legs, shoulders and elbows; also at that time he began complaining of nervousness. As the months went on he felt unable to relax, was restless and complained that he could not go to sleep without tremendous effort. "At times the harder I try, the longer I lie awake." Since 1931 these symptoms have become gradually more marked, until he has come to feel rather desperate. He tells of waking up at night with the feeling that the circulation has stopped in his extremities.

A careful physical and neurological examination reveals no evidence of any organic disorder. He is well developed, well nourished, and does not appear ill. Laboratory tests, including blood Wassermann, blood chemistry, urinalysis and spinal fluid examination were within normal limits. His general appearance and facial expression suggest moderate anxiety.

There is nothing outstanding in his family history. His father was a physician who lived to be eighty-six years of age. Just before the death of his father, the patient discussed his nervousness with him. The father gave him no real satisfaction but advised him to stay away from doctors in general, and especially advised him to avoid irregular practitioners. However, the patient consulted first one physician and then another throughout his state. One physician told him he had arthritis; another accounted for the pains in his legs by saying that he had prostate trouble. He then tells of various treatments, in particular a period of treatment at a certain mineral spring in Texas where he spent four to five hundred dollars and got no relief. He was under a physician's care and tells of receiving prostate treatments and colonic irrigations. Then he was treated in another institution, again without results; and more recently he has been treated by what he calls the "hokus pokus" doctors at still another place.

He describes what appear to be acute anxiety attacks which have been more marked in the past six months. He says, "Sometimes when I wake up that way with no circulation in my legs I feel of my heart and it is barely pumping. My heart has bothered me more in the past three or four months. There is a sort of ache in there around my heart; if I take any exercise it is worse, but the doctors have told me there is nothing really wrong with my heart. Anyway I always have the feeling that if I did not get up at once when those weak spells strike me, my heart would really stop beating."

He goes on to tell of his last hospital care at a clinic in Texas; says the doctors studied him from head to foot, taking X-rays, etc. They showed him a plate and pointed out on it "that my appendix looked dark. They thought there was something wrong there and suggested I have an operation, but I didn't want to be cut anymore, because every time they cut on me, they cut some more nerves. I had my tonsils out, also had a varicocele operation a few years ago. A little over a year ago I got so bad I was like the drowning man who would grasp at any straw. I listened to a radio program from a widely advertised "hospital," on prostate trouble, and like any man who is sick I thought I had everything I heard about. I went to the hospital but didn't have the $700 right then for the "technique" operation, but I found a doctor in another town who said he would do an operation like that for $60, so I let him do it."

When asked what the nature of this operation was he replied, "My kidneys were moving very freely; my legs were weak. When they told me about the prostate trouble I thought maybe I had it. They made a cut over the prostate and clamped some vessels and cut them. At least that is what they said they did, but I didn't feel any better after that. I went to a chiropractor and he gave me some adjustments for $35. Then a fellow I knew said I went to the wrong chiropractor, so I went to another one and he popped some of my bones. I know there is nothing to those things but I felt terrible. The worst was the "hokus pokus" doctor I met at G——. There were two or three of them there and they called themselves Magnetic Healers. Altogether, I have spent more than $3,000 and I feel worse now than I ever did."

He stated that he reached the ninth grade in school; left school to take a job in the ship yards in California, then served in the Marine Corps during the World War; took up farming after he was discharged. In 1925, he sold extracts, household remedies and patent medicines with fair success. A couple of years later he began selling typewriters. At the present time, he owns his own home and has three farms, all of which are mortgaged, but all of which are well rented and have more than paid their taxes in the past few years. He says he has worried over finances though there is no reason to do so—"I know I haven't anything to be greatly alarmed about, I still have a paying job and I am sure I will come out all right on the farms, but I just get an "all gone" feeling when I see other people on relief. Something inside me makes me afraid that I might get that way. I work hard. I want to put my boys through college if they will go."

He relates that he is quite happy in his home life, and says there has been no change in his sex life the past few years. He admits that he has had feelings that he is too highly sexed and that indiscretions of a sexual nature might lead to nervous or mental disorder. He describes his personality makeup as of a seclusive, withdrawing type. He never learned to dance; was always very conscientious, thinking constantly of how he could better his condition in life.

In subsequent interviews, he admitted that from time to time he has attempted to take stock of himself. He finds considerable discrepancy between his present achievements and his early ambitions. True, prior to 1929 he acquired some property and considered himself moderately successful, but with some reverses of recent years, he feels that he has definitely fallen short of his goal. In still later interviews, and after the establishment of confidence or "rapport," the patient told of certain marital discord and lack of harmonious sex life over which he had brooded and worried for many years, though he insisted this was not the cause of his illness. However, after going into these difficulties in some detail, he himself brought out the definite relationship between this discord and the long continued emotional stress, the latter acting more as a causative factor.

In handling such a problem as this, the role of the physician is simply to assist the patient in his effort toward readjustment to his life situation. The matter of outlining a regime of treatment in this case is obviously a difficult problem now, as against what it would have been five or eight years ago. Now he is expressing definite depressive trends, as noted in his remarks that life is hardly worthwhile anymore. An ideal procedure at this time would be to place the individual in a special institution with facilities for care of psychoneurotics, where he would have a full curriculum of activities. He should be kept busy eight to twelve hours a day with ample recreation. An attempt should be made to arouse new interests. With a series of therapeutic interviews, the outlook in this case should be hopeful. However, this individual is distinctly more ill now than he was five years ago. A little attention and simple care on the part of one of the physicians whom he contacted in those days would, in all probability, have shortened his illness. Again, it is to be noted that the financial outlay for various types of medical care has, as he says, been in excess of $3,000 in the past few years. For that considerable sum he received little that was beneficial and much that was harmful.

COMMENT

To summarize: Whether we, as physicians, like it or not, we live in a neurotic age. Though we may not be responsible for the trend of the times, doing what we conscientiously can to bring about a more balanced adjustment for

the emotional victims of the age is definitely our job. One that, as a whole, we are not doing as well as we might.

Many psychoneurotics are not receiving adequate care at the hands of the general practitioner and eventually drift into the hands of incompetent cultists. The prevalence and increase in number of the irregular practitioner is, in a measure, dependent on this situation, since these patients in desperation will grasp at any straw. Therefore, the regular practitioner has a moral obligation to this vast number of neurotics, as well as a professional obligation to himself and colleagues.

By sympathetic care on the part of the physician, the mentally sick may be saved from the incompetent cultists.

First National Bank Building.

Hormone Therapy in Gynecology

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BECAUSE of the large number of endocrines recently introduced, their questionable value, variable results and multiple conditions for which they have been recommended an attempt has been made to evaluate their clinical value from our present knowledge.

The character of many of the endocrine disturbances responsible for gynecological conditions is not as yet clearly understood and for this reason much of the endocrine therapy is based upon theoretic concepts. Some of the more frequently encountered gynecological conditions are reviewed in the hope that a more clear understanding of the clinical application may be attained.

THE MENOPAUSE

There are two main types of climacterics: The induced (radiologic and surgical), and the physiological or natural.

In the artificial or induced menopause, the symptoms are as a rule more sudden in onset and frequently more severe, the gradual change that occurs in the physiological climacteric frequently requires no therapy other than sedation (approximately twenty-five per cent will require some form of endocrine therapy)[1].

Amenorrhea as a symptom of menopause must be differentiated from amenorrhea due to pituitary failure. Recently through the 17-ketosterone determination we have a method of determining diminished pituitary function.

With cessation of ovarian function there is an associated hypertrophy of the pituitary gland which secretes an excess of follicle stimulating hormone. A distrubance of other glands at this time may also occur, chief of which is the thyroid. There is a diminished secretion of estrin, although evidence of continued estrin secretion may continue long after the ovaries have stopped functioning[1]. It is believed by some that the increase in the follicle-stimulating hormone is responsible for the severity of the menopausal symptoms, a relationship being present between the amount present in the urine and the severity of the disturbance[1]. Papanicolaou[2] has given us a diagnostic aid in determining estrogen deficiency by means of the vaginal smear.

The preparations used in treatment of this condition are related to a-estradiol, the estrogen produced by the ovary. The benzoic acid ester and dipropionate ester of estradiol are the ones considered most efficient, being more slowly absorbed and utilized[3].

The use of stilbestrol has recently received considerable publicity; through its action only is it related to the natural estrogens[4]. The unpleasant symptoms experienced upon its administration detracts from its efficacy. The unpleasant symptoms are present in from 10 to 60 per cent of the cases treated[5]. Its low cost and ability to relieve estrogen deficiency when taken by mouth is an advantage that may indicate its use in a limited number of cases.

Recently Geist and Salmon[6] have reported upon the use of ethinyl estradiol as an effective oral estrogen, it also produces unpleasant side effects in 18 per cent of cases. Further research will be necessary to eliminate the side effects in both of these before they will be superior to the physiologic estrogens. The sublingual administration and implantation of pellets or cystals is still in the experimental stage and additional evidence must be produced before it

is recognized as an effective method of estrogen administration.

Testosterone is very effective through its action of inhibiting the anterior pituitary gland, depressing the action of the follicle-stimulating hormone, in cases where bleeding may be stimulated by estrogens[1].

Functional Bleeding

This is one of the most disturbing and little understood conditions with which the gynecologist has to deal. The treatment with the use of endocrines is all that I will attempt to discuss.

Because of the widespread use of the gonadotropic hormones for this condition, a brief discussion of them is pertinent. The gonadotropic hormones are derived chiefly from three sources:

1. Animal pituitary, which yield mainly a follicle-stimulating hormone and very little of the luteinizing factor[13]. This hormone is insufficiently concentrated to produce therapeutic results in the human[13].

2. Pregnant mares serum yields a hormone believed to be identical with the anterior pituitary hormones and is potent enough to produce ovulation in women[17]. Its chief function should be retained for the treatment of sterility. Its use in functional bleeding cases is of little value[13].

3. Human pregnancy urine yields a gonadotropic hormone, (chorionic gonadotropin), its chief characteristic being the presence of a luteinizing principle, and is of definite value in selected cases of functional bleeding.

Synapoidin (Parke, Davis), recently released, seems to offer the most promising results but should not be used indiscriminately until more experimental work has been done. It is a combination of the anterior pituitary and chorionic factors.

Progesterone has been introduced as a rational form of therapy on the basis of its apparent lack and over stimulation of the endometrium by the estrogens, but it has not produced the clinical effects desired.

At present the androgens are considered the most effective form of therapy. Its physiological action seems based upon[1] inhibition of the gonadotropic activity of the pituitary[9]; and[2] suppression of follicle growth with consequent failure of estrogen and progesterone production, neutralizing the effects of the female sex hormone. In women of middle age the most effective procedure for the control of this type of bleeding is abolition of ovarian function by the use of X-ray or radium, unless it is felt that the sudden withdrawal of ovarian function may induct sever psychic disturbances and in these surgey is indicated in a limited number of cases.

Amenorrhea

Amenorrhea of endocrinopathic nature has been treated with thyroid, gonadotropic hormones and estrogens with inconstant results. Sevringhaus and Campbell[10] have reported good results using the various gonadotropic hormones when the ovaries were not refractive to stimulation. They used both the pituitary and the chorionic gonadotropins with apparent equally good results. Although it has been shown that the chorionic gonadotropic hormones may produce atrophy of the endometrium after prolonged therapy[11]. The combined therapy (Synapoidin) should be the most advantageous. Mazer and Ravetz[13] have reported the stimulation of menstruation in 18 to 23 girls, 11 of which had not menstruated for one or more years. Thyroid medication is of value because of its stimulating action upon the ovaries.

Dysmenorrhea

The value of endocrine therapy in the treatment of primary dysmenorrhea is based upon the physiological activity of the uterus. Novak and Reynolds[15] established that uterine motility was increased by estrogenic substances, and that progesterone decreases the motility of the uterus; they have concluded that the pain in primary dysmenorrhea is due to increased contractility of the uterus, dependent upon a faulty balance of the above hormones.

Progesterone because of its ability to relax the uterus is the product most frequently used and seems most effective. The individuals with hypolastic genitalia should be treated with the estrogens to stimulate the uterus to functional activity. The androgens have also been used in the treatment of dysmenorrhea, its function being the anti-estrogenic effect.

The chorionic gonadotropic substances have also been used because of their progestin-like function, with variable results.

Sterility

In sterility, the endocrines can be said to have

only a questionable value. Thyroid, through its stimulating action, should be used in both sexes. The other endocrinological defects should be corrected if possible, and the use of pregnant mares serum deserves a trial, although a carefully controlled study by Geist, et al[16] failed to show significant evidence of ovulation in the human after administration of this substance; this is in disagreement with other writers[17, 18], who have reported ovulation using this gonadotropic substance. Chorionic gonadotropic hormone has no place in the treatment of sterility[3] as it has been shown that it may cause trophy of the endometrium and it does not produce ovulation[7, 3]. The synergist action of hypophyseal gonadotropic hormone and chorionic gonadotropin (Synapoidin—Parke, Davis) has been shown to have marked stimulating action on the ovaries; as yet it has not been used in the treatment of sterility long enough to have proved its value.

Threatened Abortion

The endocrine therapy used in the treatment of threatened abortion has proved of considerable value. Progesterone used in doses of 1-5 mg. daily relaxes the uterus and aids in implantation of the placenta. Other endocrines are of little value in the treatment of this condition with the exception of thyroid which in many cases prevents the threatened termination of the pregnancy.

To summarize the action and indications for the effective endocrines used today in gynecology we may outline them as follows:

ESTROGENS

Action—

1. Stimulates the uterine growth and increases the contractility of the uterus.
2. Stimulates the proliferation of the basal cell layer of the endometrium.
3. Produces cyclic changes in the vaginal wall.
4. Stimulates the glandular and stromal components of the endocervix.
5. Deficiency causes increase in the folllicle stimulating hormone.

Indications—

1. Used most effectively in the treatment of ovarian deficiency.
   (a) Menopause.
2. Vulvovaginitis.
3. Missed abortion.
4. Senile vaginitis.

STILBESTEROL is still not as effective as the natural estrogens because of the side efficiency.

Indications are the same as for the natural estrogens.

PROGESTOGENS

Action—

1. Decreases the contractility of the uterus.
2. Transforms the endometrium into the secretory phase.
3. Necessary to the maintenance of pregnancy.
4. Stimulates acinar growth of the breasts.

Indications—

1. Threatened abortion.
2. Dysmenorrhea.

Table I
ENDOCRINE

	Action	Indication	Results
ESTROGENS—	Stimulate uterine growth	Menopause	Good
	Stimulate growth of endometrium	Ovarian deficiency	Variable
	Increase contractility of uterus	Vulvo-vaginitis	Good
	Increase vascularity of uterus	Missed abortion	Fair
	Stimulate secondary sexual characteristics		
	Produce cyclic changes in vaginal wall		
PROGESTOGEN—	Decrease contractility of uterus	Threatened abortion	Good
	Stimulates secretory phase of endometrium	Dysmenorrhea	Good
	Necessary to maintenance of pregnancy		
	Stimulates acinar growth of breasts		
ANDROGENS—	Gonadotropic activity of pituitary inhibited	Functional bleeding	Good
	Endometrium becomes atrophic	Dysmenorrhea	Variable
	Vagina shows estrogen deficiency	Menopausal Syndrome with bleeding	Fair
GONADOGENS—	Ovarian Stimulant	Sterility (Pregnant mares serum)	Questionable
		Functional bleeding (chorionic gonadotropic hormone)	Fair
		Ovarian deficiency (combined)	Variable
		Amenorrhea (combined)	Variable
THYROID—	Ovarian Stimulant	Low metabolic activity	Good
		Ovarian deficiency	Good
		Sterility	Good
		Amenorrhea	Variable
		Functional bleeding	Variable

GONADOTROPIC HORMONES

Action—

1. Ovarian stimulant.
   (a) Anterior pituitary gonadotropins.
   (a1) Stimulate follicle formation.
   (a2) Stimulate ovulation and luteinization in animals; in humans, ability to stimulate ovulation questionable. (Equinine Gonadropin substance most concentrated).
   (b) Chorionic gonadotropic hormone.
   (b1) Luteinizing stimulant.
   (b2) May cause endometrial atrophy.

Indications —

1. Sterility.
   (a) Pregnant mares serum or synergistic action of anterior pituitary and chorionic gonadotropic substance (Synapoidin) most effective, either of questional value.
2. Functional bleeding.
   (a) Chorionic gonadotropic substance.
   (b) Combination of gonadotropic substances may be tried.
3. Hypo-ovarian function.
4. Amenorrhea.

ANDROGENS

Action—

1. Gonadotropic activity of the anterior pituitary inhibited.
2. Follicle growth and ovulation of the ovary are suppressed.
3. Menstruation is suppressed with atrophy of the endometrium.

Indications—

1. Functional bleeding.
2. Dysmenorrhea and ovulatory pain.
3. Menopausal symptoms with the presence of bleeding.
4. Painful and engorged breasts.

THYROID

Action—

1. Ovarian stimulant.

Indications—

1. Low metabolic activity.
2. Ovarian deficiency.

Table II

HORMONE	Pharmaceutical Name	Distributor
ESTROGENS—		
a—Estradiol (dihydroxyestrin)	Ovocylin	Ciba
a—Estradiol	Dimenformon Benzoate	Roche-Organon
a—Estradiol Benzoate	Ben-Ovocylin	Ciba
a—Estradiol Benzoate	Progynon-B	Schering
a—Estradiol Dipropionate	Di-Ovocylin	Ciba
Extrone (Ketohydroxyestrin)	Estrone-Abbott	Abbott
Estrone	Estrone-Lilly	Lilly
Estrone	Theelin	Parke-Davis
Estrone	Estrogenic Substance	Sharp and Dohme
Combined Estrogens	Amniotin	Squibb
Estriol (oral)	Estriol-Lilly	Lilly
Estriol (oral)	Estriol-Abbott	Abbott
Estriol (oral)	Theelol	Parke-Davis
Estriol glucuronate (oral)	Emmenin	Ayerst
a—Estradiol (oral)	Progynon-D. H.	Schering
Estrone-Estradiol-Equilin (oral)	Urestrin	Upjohn
Diethylstilbestrol	Stilrone	Abbott
Diethylstilbestrol	Stilbestrol-Lilly	Lilly
Diethystilbestrol	Stilbestrol-Winthrop	Winthrop
Diethylstilbestrol	Estrobene	Ayerst
Diethylstilbestrol	Stilbestrol	Upjohn
PROGESTOGENS—		
Progesterone	Lutocylin	Ciba
Progesterone	Proluton	Sherinz
Progesterone	Lipo-Lutin	Parke-Davis
Progesterone	Progestin	Lilly
Pregneninolone (oral)	Progesterol	Roche-Organon
Anhydro-hydroxy-progesterone (oral)	Pranone	Schering
GONADOTROPIC-HORMONES		
Anterior Pituitary	Prephysin	Chappel
Anterior Pituitary	Polyansyn	Armour
Anterior Pituitary	Gynartin	Searle
Anterior Pituitary	Gonadotropic Factor	Ayerst
Pregnant Mares Serum	Gonadin	Cutter
Pregnant Mares Serum	Gonadogen	Upjohn
Pregnant Mares Serum	Anteron	Schering
Chorionic gonadotropins	Follutein	Squibb
Chorionic gonadotropin	Antuitrin-S	Parke-Davis
Chorionic gonadotropin	A. P. L.	Ayerst
Chorionic gonadotropin	Pranturon	Schering
Chorionic gonadotropin	Antophysin	Winthrop
Combination (Ant. Pituitary & Chorionic)	Synapoidin	Parke-Davis
ANDROGENS—		
Testosterone propionate	Perandren	Ciba
Testosterone propionate	Oreton	Schering
Methyl testosterone (oral)	Metandren	Ciba
Methyl testosterone (oral)	Oreton-M	Schering
Methyl testosterone (oral)	Neo-Humbreol (M)	Roche

3. Sterility.
4. Amenorrhea.
5. Functional bleeding.

The therapeutic efficacy of the endocrine preparations have much to offer in the field of gynecology. They should not be used routinely for the many conditions for which they have been recommended until a careful study of each patient has been made to determine their indication, potential dangers and ability to produce the effects desired.

The recent advances in the gonadotropic substances have not offered all of the advantages hoped for and should be used sparingly until more confirmatory work has been advanced as to their nature and ability to function in the human as in laboratory animals.

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AMERICA AT WAR

WAR GASES

The substances used in chemical warfare may be employed as clouds of vapor liberated from cylinders and carried with the wind; or as liquids and solids contained in bombs, shells, or grenades, which after explosion liberate poisonous or irritant vapor or droplets. Similar substances may be sprayed or dusted from airplanes. They are all spoken of as "gas," and may affect the body by being breathed as fumes or mist, by being sprayed or splashed on as droplets or fine particles. Persons also may be dangerously affected by coming in contact with contaminated objects, such as ground, foliage, plants, bushes, implements, and other objects, and even the skin and clothing of other persons who have been contaminated with gas. The chemicals used may irritate the eyes, nose, and throat, damage the lungs, or burn and blister the skin, nose, throat, or stomach.

Prevention of contamination and protection from gas are based chiefly on the use of gas masks, gas-proof clothing, and gas-proof shelters. The segregation of gassed individuals in separate gas decontamination stations is essential not only for their own proper treatment and decontamination but also to prevent further danger to other injured persons who have not been exposed to gas.

Where such gas decontamination stations are available, all gassed individuals should be promptly taken to them to receive adequate care from specially trained and equipped gas defense personnel. If these stations and this care are not available, first aid should be given as indicated by the following:

Types of Gas and First Aid for Each

1. Tear Gases or Eye Irritants *(as bromo-benzyl-cyanide).*
   a. Odor: Either like flypaper or like apple blossoms.
   b. Effects: Burning pain in eyes, copious tears, spasm of lids. Effect temporary.
   c. First Aid: Remove from contaminated air. Face the wind and avoid crowding. Avoid rubbing the eyes. Do not bandage the eyes. Generally, no treatment is necessary. In severe lasting cases, wash with cold water or weak boric, saline, or baking soda solution.
2. Sneeze Gases or Nose Irritants *(as diphenyl-cyanoarsine).*
   a. Odor: Slightly like coal smoke, yellowish cloud. Or grayish smoke cloud without odor.
   b. Effects: Aching pain in head, face, nose, throat, chest. Sneezing and coughing. Sometimes partial paralysis of one or more limbs. Sometimes vomiting. Mental depression. Effects severe but temporary.
   c. First Aid: Flush nose and throat with weak solution of baking soda (sodium bicarbonate) or breathe fumes of bleaching powder in a wide-mouth jar. Drink baking soda solution freely if vomiting. Warn

victims that symptoms will increase for some time. Try to allay fear and avoid panic.

3. Choking or Lung Damaging Gases *(as chlorine or phosgene).*
   a. Odor: May smell like new cut hay or mouldy hay, but pungent and disagreeable, or may have sweetish odor.
   b. Effects: In low concentrations — brassy taste, headache. Effects delayed but serious. Soreness in lungs, coughing.

      In higher concentrations — coughing, throat spasm, retching, tight feeling in chest, blueness of face, increased pulse and breathing rate. Victim may collapse without previous warning following sudden exercise.
   c. First Aid: Absolute rest is essential even when no symptoms appear. Keep lying down and transport on a stretcher. Do not permit to walk to first aid post even though they may insist they are perfectly able to do so. Keep warm. Do not give artificial respiration in the hope of relieving difficult breathing, as it may do serious damage. Hot coffee or tea may be given.

4. Blister Gases.
   a. Odor: Like geraniums, then biting *(lewisite).* Like garlic or horseradish *(mustard gas).*
   b. Effects: Extremely powerful, persistent, and dangerous. Onset of action may be delayed 24 hours, but first aid care must be prompt to be effective. Burning of eyes with acute inflammation. Itching, burning, and blistering of skin. Severe pain in chest and brassy cough if breathed. Vomiting and pain in stomach and abdomen if swallowed.
   c. First Aid: Act rapidly. Degree of burning depends upon promptness of first aid given. Wash off with running water and soap. Daub washed skin with cloths moistened in benzine, kerosene, alcohol, or ether, or with straight gasoline (not ethyl) or carbon tetrachloride (pyiene).) Do not rub. The fumes of many of these solvents are explosive; therefore, avoid sparks, cigarettes, or flames during this procedure. Destroy used cloths or cleaning tissue by burning or burying. For early or immediate use, bleaching powder (chlorinated lime) made into a cream paste with water will neutralize, but this is dangerous in later stages. Wash it off with alcohol after five minutes. Irrigate the eyes with cold water or a weak solution of boric acid, common salt, or baking soda. Clothing retains the gas and must be removed for decontamination, and fresh clothing supplied for the victim. Great care must be used in handling the victims and their clothing to avoid contamination and secondary gassing of the attendant personnel. Avoid inhaling the gas and use rubber gloves or treat your hands at once. The hands and gloves should be frequently washed with hot water and soap. Transport on a stretcher.

5. Paralyzing Gases *(as hydrocyanic acid or hydrogen sulfide).*
   a. Odor: Like bitter almond or like rotten eggs.
   b. Effects: Slight headache. Loss of consciousness. Convulsion. May stop breathing.
   c. First Aid: Remove to fresh air. Give artificial respiration if needed. Give first aid for shock. Transport on a stretcher.

6. Screening Smokes *(as phosphorus or chlorosulphonic acid).*
   a. Odor: Acid, acrid, or suffocating. White smoke from phosphorus smells like matches.
   b. Effects: The smoke alone may give a mild prickling sensation, but is harmless. However, when a phosphorus bomb explodes, if particles of phosphorus strike the skin they cause severe deep burns, which heal very slowly.
   c. First Aid: The phosphorus particles must be removed before giving the usual care for burns, since phosphorus continues to burn in unless removed. Immerse the wound in hot water, which melts the phosphorus, and it can then be sponged out with a gauze pad. If cold water only is available, the particles will not melt, and must be picked out under water. Phosphorus will reignite on exposure to air. If available, copper sulfate solution (2 to 5 per cent) may be applied, which coats the phosphorus with copper and stops burn-

ing, and the particles can be lifted out. After either method of removal, care for like an ordinary burn.

Those rendering first aid must be able to recognize gas cases so that they may take the necessary precautions to avoid contamination of themselves and others. Avoid inhaling the fumes. Wear a gas mask while working on gassed persons, and use rubber gloves if possible. The gloves and hands must be washed frequently and treated with the proper chemical to counteract the type of gas in use—Supplement No. 2, *The American Red Cross First Aid Textbook.*

PROCUREMENT OF MEDICAL PERSONNEL

"When the bombs fell on Pearl Harbor, the medical profession was not caught short!" So said Major Sam Seeley in a talk to the New Jersey Hospital Association at New Brunswick, January 15, 1942. Major Seeley, Medical Corps, United States Army, is Executive Officer of the Procurement and Assignment Service. To this service falls the duty of finding qualified physicians for vacancies in the Army, Navy, Public Health Service, Veterans' Administration, United States Civil Service and all other government agencies, industrial, military and civilian. His aim, he explained, is "to fit the round pegs in the round holes." It is hoped to assign each doctor to the work for which he is best qualified. This is possible because of the registration of physicians conducted at the request of the Surgeon-General by the American Medical Association in the summer of 1940, because of the cooperation of state medical societies in that program, because of the help offered by specialized medical societies, and because of the internal machinery of the Procurement and Assignment Service itself. Major Seeley's talk answered a number of queries commonly raised by doctors. Following is a list of hypothetical questions to which Major Seeley's address provided the answer:

Will the Government bring pressure on physicians engaged in essential civilian tasks, to enter the armed forces?

There will be no raiding of civilian institutions and agencies. It is hoped that wherever a physician under the age of 45 is essential to a hospital, medical school, health department, medical society or industry, he will seek to train an older (or physically ineligible) physician for that task so that the former may be released for more active duty. An absolutely essential practitioner of any age, however, will be permitted to remain in civilian life if his indispensability is clear.

Who will determine indispensability?

Special boards of physicians have been set up in each Corps Area; to them special state boards will be responsible. The actual investigation of the doctor's status will be conducted by local boards composed of practitioners who know the community's needs. These local representatives will not make the decision; they will merely report the facts in a consultative capacity.

How are a specialist's qualifications determined?

For some time now, many agencies have been cooperating on this. These include the specialty medical societies, the examining boards, the offices of the National Resources Planning Board, and other agencies having special facilities for this work. On the basis of these studies, each specialist is rated, and a confidential report of his standing is submitted to the Procurement and Assignment Service.

What are the "classes" of specialists?

Specialists are grouped in four grades. In class 1 are men who are definitely "outstanding" specialists of national standing. In class 2 are men who can take care of all branches of their specialty without supervision and with full responsibility. Class 3 includes competent assistants, capable of assuming responsibility when necessary, while in class 4 are placed men still training in a specialty, or those men engaged in specialized practice who are not yet ready to assume class 3 responsibilities.

May a man secure his specialty rating by writing for this information?

No, the classifications are confidential.

How many physicians does the Army need?

On November 1, 1940, the War Department needed 1400 physicians to complete its tables of organization. The Army has, of course, expanded since then, and consequently more physicians are needed. For reasons of military policy, the exact figures are not being made public.

Are physicians needed in all ranks?

Most of the vacancies are in the rank of first lieutenant and captain.

May a civilian receive a senior rank when entering service?

The Secretary of War is authorized to issue new commissions in any rank up that of Colonel. This will be done as the needs of the Army demand, the rank assigned depending on the age, qualifications, hospital status, skills and experience of the applicant. It is considered appropriate, however, to protect the seniority of medical officers in the Reserve Corps, National Guard and Regular Army, who have earned promotion, but who have not yet been promoted because of lack of vacancies in the higher grades. In general, first choice will be given to these men when vacancies develop, other things being equal.

Is the Medical Reserve Corps now receiving applications for new commissions?

No, the Reserve Corps is closed: but physicians may apply for commissions in the Army of the United States. Such commissions are for the duration of the war plus six months unless vacated sooner by the War Department.

May physicians under the age of 45 be drafted as private soldiers?

Nothing in the Selective Service Act forbids this, though it will be the policy of selective service to defer physicians applying for commissions until they can receive such commissions and enter the Army of the United States with officer status. Any physician placed in class 1A by his local draft board, who is faced with the possibility of early induction as a private soldier, may appeal this classification and could, if necessary, carry his appeal to the State Director and ultimately the National Director of Selective Service.

How many physicians in the country are now under the age of 45?

About 60,000 of the country's 185,000 doctors are under the age of 45.

What is the status of medical students?

A. All students holding letters of acceptance from the Dean for admission to medical colleges and freshmen and sophomores of good academic standing in medical colleges should present letters to their local boards. This is necessary to be considered for deferment in Class II-A as a medical student. If local boards classify such students in Class I-A, they should immediately notify their deans and if necessary exercise their right of appeal to the Board of Appeals. If, after exhausting such rights of appeal, further consideration is necessary, request for further appeal may be made to the State Director and if necessary to the National Director of the Selective Service System. These officers have the power to take appeals to the President.

B. Junior and senior students, physically disqualified for commissions, are to be recommended for deferment to local boards by their deans. These students should enroll with the Procurement and Assignment Service for other assignment.

C. All junior and senior students in good standing in medical schools should apply immediately for commission in the Army or the Navy. This commission is in the grade of Second Lieutenant, Medical Administrative Corps of the Army of the United States, or Ensign H. V. (P) of the United States Navy Reserve, choice as to Army or Navy being voluntary. Applications for commision in the Army should be made to the Corps Area Surgeon of the Corps Area in which the applicant resides and applications for commission in the Navy should be made to the Commandant of the Naval District in which the applicant resides. Medical R. O. T. C. students should continue as before with a view of obtaining commissions as First Lieutenants, Medical Corps, upon graduation. Students who hold commissions, while the commissions are in force, come under the jurisdiction of the Army and Navy authorities and are not subject to induction under the Selective Service Act. The Army and Navy authorities will defer calling these officers to active duty until they have completed their medical education and at least 12 months of internship.

Should a physician with an obviously disqualified physical defect fill out the enrollment blank for the Procurement and Assignment Service?

Yes. A doctor may have a defect which disqualifies him from Army or Navy Service, yet he may be valuable in a Veterans' Hospital, in a Civilian Defense position, at a public health post, etc. Every physician responsive to his country's call should fill in the enrollment blank when it is mailed to him.

—*J. Med. Soc. N. J.*

REJECTEE REHABILITATION

Tests of a physical rehabilitation program intended to make many registrants who were rejected because of minor physical defects fit

for active military service, have been authorized in Maryland and Virginia, National Headquarters, Selective Service System, has announced.

Authorization of the rehabilitation programs in the two States marks the beginning of a long-planned nation-wide physical rehabilitation campaign. When the results of these pilot tests are evaluated, a date for the inauguration of the National program will be set.

Only those registrants whose disabilities are certified by the Army as being remediable will be eligible to undergo treatment.

As one of the first steps in the Maryland and Virginia test programs, the Director of Selective Service Headquarters lists of physicians and dentists qualified to correct physical defects of registrants. Physicians and dentists designated to render these authorized professional services will be paid by the Federal Government.

National Headquarters emphasized that any physician or dentist can apply to be designated to assist in the rehabilitation program. Physicians and dentists not already designated by registrants as their choice for dental or medical treatment, and other physicians and dentists who wish to take part in the program, may obtain the necessary application forms from their local boards.

CARE OF BABIES IN AIR RAIDS

Instructions as to the special care of babies in the event of an air raid, based in part on the experience of London and other English cities, are made public by the American Committee on Maternal Welfare.

In view of the general possibility of air raids on American cities, particularly in the coastal zones, the committee regards it as important that American mothers understand and prepare well in advance for the task of protecting their babies. The committee is composed of the leading medical, public health, nursing and hospital organizations of the country and can thus speak with authority.

Aside from the immediate need of shelter from bomb explosions, the most important fact to keep in mind, the English have learned, is that the mother's mental attitude is baby's best guarantee against air-raids.

"However frightened you may feel," the committee quoted from instructions issued by the British National Baby Welfare Council, "keep outwardly calm and unflurried, so that the child's confidence in your own protectiveness may not be shaken.

"Never speak of the raid in the child's hearing if you can avoid it. Mental impressions are formed very much earlier than most people realize. Many of the problem cases among grown-ups of the present day owe their condition to their parents having talked continually in the presence of the chidren about past and future air raids, about their own terror, and the effect of this on the child. he following words are as true today as when they were written thousands of years ago: 'In quietness and confidence shall be your strength.'"

When the raid signal sounds, the first move should be in the direction of the nearest shelter. If there is no shelter, take the baby to the safest room in the house, or to a closet under the stairs or under a table or bed, so that he may be protected from flying debris, which presents the most frequent danger.

Take with him garments enough to keep him warm according to the season, a basket or pillow on which he can lie, a first aid outfit in case of need; a toy to amuse him; his bottle of milk and bottle of water, together with extra diapers and related equipment.

The baby's ears should be blocked with cotton wool to minimize the effects of concussion, leaving plenty outside so that it may be easily withdrawn afterward.

If the raid should come while the baby is away from either house or shelter—for an airing in the park, for instance, find the nearest wall or ditch, however low, place the baby on the ground beside it, with pillows from the baby carriage or a heavy coat under and over him, and lie down beside him.

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SOCIETY ACTIVITIES

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Arizona State Medical Association

L. B. COHENOUR, M. D.
Secretary
New Mexico Medical Society

LOUIS BRECK, M. D.
Secretary
Southwestern Medical Association

CHAS. F. RENNICK, M. D.
Secretary
El Paso County (Texas) Medical Society

NEW MEXICO MEDICAL SOCIETY

(L. B. Cohenour, Associate Editor)

Chaves County Medical Society annual dinner meeting was held at Nickson Hotel, Roswell, December 16, 1941. The following officers were elected for 1942: Dr. E. J. Hubbard, Dexter, N. M., President; Dr. U. S. Marshall, Roswell, Vice-Pres.; E. W. Lander, Roswell, Sec.-Treas. Program was presented by Dr. Louis W. Breck, of El Paso, Texas—a discussion of Internal Derangement of the Knee, illustrated by a colored movie film.

Regular meeting of the Society on February 3, 1942 was presided over by Dr. E. J. Hubbard. Program was presented by Dr. Stuart W. Adler, State Director of Maternal and Child Welfare Department. Some problems of the department and their relation to the profession were discussed. The Society approved the showing of the film "When Bobbie Goes to School". An interesting film on the tuberculosis problem in the Navajo country was enjoyed .

Reported by E. W. Lander, M. D., Sec.-Treas.

The regular meeting of the McKinley County Medical Society was held on Wednesday evening, February 25, 1942, at St. Mary's Hospital, Gallup, New Mexico.

In regard to the enforcement of the ordinance relating to stray dogs, it has been noted that the Chief of Police recently had an article in the local newspaper, warning that after a certain date all dogs without license tags would be apprehended.

No report was given by committee chairman who was to contact coordinator of local Defense Council concerning organization of Civilian Defense, in regard to hospital, doctors and nurses.

Committee on Public Health program reported on expense for these publications in local newspaper. The Society voted to finance this program for one year and instructed the committee to proceed with the plan as outlined at last meeting.

Literature has been received from the National Physicians' Committee asking cooperation and funds for special war effort program. This material is to be left out in Medical Record Office, St. Mary's Hospital, for members of Society to review.

It was decided that committee in charge of securing motion picture films, for presentation at meetings, would stand the expense of same for six months and then prorate cost between members.

Ways and means of improving the local Indigent Clinic Service were presented. General discussion followed. It was decided that each doctor would take service for three months, instead of rotating each week, to stimulate more interest in this work, and also to provide better individual care of each patient. Rotation to be in alphabetical order, as before, but doctors on service name alternate in case of absence from town, and may also have clinic at time of day best suited to him, so as not to conflict with his private work. Dentist is to be contacted to arrange for free dental service when needed.

Program: Four reels of colored films were shown, two on Vaginal Repair of Cystocele and Rectocele (Dr. Arthur H. Curtis, Northwestern University Medical School), and two on Surgical Treatment of Varicose Veins and Ulcers (Dr. Gerald H. Pratt, N. Y. Portgraduate Medical School).

Following showing of these films, Dr. Anthony reviewed two cases of varicose veins which he had treated by technique similar to that illustrated in films. He also described the Bohler technique of applying unpadded plaster of pari-

splints and explained aftercase. X-ray pictures were shown of a patient with comminuted fracture of tibia and fibula, who has received this treatment with successful results, so far.

Reported by W. D. Anthony, M. D., Secretary.

EL PASO COUNTY (TEXAS) MEDICAL SOCIETY

(W. John Pangman, Associate Editor)

At the regular meeting of the City-County Hospital Staff, Wednesday, February 18, 1942, the program was:

Presentation of Medical Set-up for Civilian Defense.....Dr. H. H. Varner
Dr. T. J. McCamant

A regular Staff Meeting of the Hotel Dieu Sister's Hospital, was held March 3, 1942. The program:

1. Review of the yearly Medical Report for 1941.....Dr. C. E. Jumper
2. Nasal accessory sinusitis, Meningitis .....Dr. S. G. Von Almen
Discussion.....Dr. F. P. Schuster
Dr. M. E. Hart

The regular meeting of the El Paso County Medical Society was held in the Tea Room of the Hotel Cortez February 9, 1942. The meeting was presided over by Dr. Barrett, President. The minutes of the previous meeting were read and approved.

A paper entitled "Some Observations of the Pathogenesis of Appendicitis", with presentation of colored photomicrographs, was presented by Dr. L. O. Dutton. Discussion by Dr. Stowe, Dr. Waite, Dr. Gorman, Dr. Hart, Dr. King. Closed by Dr. Dutton.

Dr. Will Rogers suggested that medical examiners for Local Draft Boards follow instructions from Fort Bliss Induction Center.

Dr. Breck made a motion that the letter to the City Council dated May 30, 1940 concerning compulsory diphtheria immunization be given to newspaper for publication; seconded by Dr. Brown Randel. Discussion by Dr. Gorman, Dr. Will Rogers and Dr. Barrett. Motion failed to carry.

Meeting adjourned.

The regular meeting of the El Paso County Medical Society, presided by Dr. Barrett, President was held February 23, 1942 in the Tea Room of the Hotel Cortez.

Dr. N. D. Buie, President of the Medical Association of Texas was the guest speaker. The subject: The Activities of the State Medical Association, with special reference to the War." He discussed the procurement and assignment of physicians for the military and civilian defense.

The regular business of the Society was postponed.

At the El Paso County Medical Society meeting March 9, 1942, this program was given:

"Purposeful Splinting of the Hand".....
.....Captain William H. Frackelton,
Wm. Beaumont General Hospital
Discussion by.....Louis W. Breck, M. D.

MISCELLANY

PHYSICIANS NEEDED IN THE PANAMA CANAL ZONE

Physicians are urgently needed at the Panama Canal—one of the nation's most vital defense areas.

The U. S. Civil Service Commission has just announced an examination to secure physicians for these important positions. The entrance salary is $4,000 a year, and free transportation by boat or plane is furnished from port of embarkation, the salary beginning on the date of departure from the United States. Applications will be accepted by the Commission in Washington, D. C., until further notice. There is no written test.

Applicants must have been graduated from a Class A medical school with a degree of M. D. subsequent to May 1, 1920, and, in addition, must have had at least 1 year of experience in a hospital since graduation. Graduates from schools which require the completion of the internship before granting the M. D. degree (five-year schools) will be regarded as having met the hospital experience requirement. Applicants must not have passed their fiftieth bitrhday; however, because of the arduous duties in the tropical climate, applicants between 25 and 35 years of age are preferred.

Applicants must be in sound physical health; they must be active and capable of arduous work. Although appointees are required to pass a thorough medical examination, the physical requirements are not as high as for the army or navy service.

The duties of the position are to serve as District Physician in a small Government dispensary; have general supervision over all medical and surgical activities in the dispensary; operate a general medical and surgical clinic; examine persons entering The Panama Canal Service; visit patients day or night in their homes and on board ship; and to be in charge of business activities of the dispensary.

Further information is given in the announcements which may be obtained, with application forms, at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

ABUSE OF ELECTROCARDIOGRAM

There is another way in which these curves are often misused; some physicians still attempt to secure information about the prognosis from the electrocardiogram, although it has been shown again and again that this is usually impossible. In acute diphtheritic myocarditis, rapidly progressive changes in the ventricular complexes may justify the fear that death is imminent, and in occasional cases of acute myocardial infarction, similar progressive alterations may arouse the suspicion that the area of injury in the heart is larger and more serious than the clinical signs indicated. But even in these acute conditions, the graphic records must be interpreted in the light of the clinical evidence, while in chronic heart disease it is the clinical picture and laboratory data as a whole that must be used as the basis for estimating the prognosis.

Finally, and this is really but an amplification of my first criticism, misinterpretation of the electrocardiogram is responsible for a very large number of unjustified diagnoses of heart disease. The diagnosis of coronary disease is being made today almost as freely as that of vitamin deficiency, and with far less justification. But I doubt if many physicians other than those who specialize in this particular field realize the extent of this error or the tragic consequences that often follow. I am speaking with deliberate conservatism when I say that every week scores, if not hundreds, of normal healthy subjects are restricted in their activities and made to suffer needless apprehension because of diagnoses of heart disease based on minor changes in the electrocardiogram alone, in the absence of all supporting clinical evidence. This statement is amply warranted by my own experience, but I do not limit it to my practice or to the State of Connecticut. Like all others who specialize in this restricted field, I see many curves taken in various parts of the United States, brought to me for the most part by patients who have been condemned to a life of semi-invalidism solely because of changes in the electrocardiogram. In most cases, these changes consist of such unimportant alterations as minimal slurring of the R or S wave in one lead, low voltage of the ventricular deflections in one or two leads, and the presence of a large Q wave or inverted T wave in Lead 3. My friends and colleagues in other cities tell me that their experiences are exactly similar to mine. But perhaps the best indication that this misuse of the method is not confined to one part of the country is the fact that the American Heart Association has received letters from leaders in the cardiovascular field in the East, the South, the Midwest and the far West, asking if some board cannot be established for the sole purpose of certifying those physicians who are competent to interpret electrocardiograms. And why? Because they have been appalled at learning how many wholly untrained and incompetent physicians have purchased electrocardiographs and are using them daily in their offices, with serene confidence in their ability to distinguish between the important and the unimportant changes in the curves. In many cases, their erroneous diagnoses would be merely ridiculous if they did not so often lead to tragedy in the lives of their patients.

I believe one of the principal reasons why the electrocardiographic method is doing widespread harm today is that many physicians overemphasize its value and underestimate its limitations. They confidently expect it to accomplish much the same things that a surgeon expects of an exploratory laparotomy; that it will disclose the nature of the pathologic process, reveal its exact location and extent, and tell a great deal about the immediate treatment and

prognosis. They fail to realize that it is purely a laboratory procedure, comparable in many respects with a roentgenogram or a leukocyte count. As such, the electrocardiogram is to be interpreted merely as one finding among many, and in the light of all the clinical evidence and other laboratory tests. With the exception of the arrhythmias and some cases of acute myocardial infarction, it is reprehensible to attempt an interpretation of the electrocardiogram without knowing the clinical findings and the clinical diagnosis.—*N. E. J. of Med.*

A MILITARY SURGEON'S PRAYER

God of Battle, grant that the wounded may swiftly arrive at their hospital haven, so that the safeguards of modern surgery may surround them, to the end that their pain is assuaged and their broken bodies are mended.

Grant me as a surgeon, gentle skill and intelligent foresight to bar the path to such sordid enemies as shock, hemorrhage and infection.

Give me plentifully the blood of their noncombatant fellow man, so that their vital fluid may be replaced and thus make all the donor people realize that they, too, have given their life's blood in a noble cause.

Give me the instruments of my calling so that my work may be swift and accurate; but provide me with resourceful ingenuity so that I may do without bounteous supplies.

Strengthen my hand, endow me with valiant energy to go on through day and night; and keep my heart and brain attuned to duty and great opportunity.

Let me never forget that a life or a limb is in my keeping and do not let my judgment falter.

Enable me to give renewed courage and hope to the living and comfort the dying.

Let me never forget that in the battles to be won, I, too, must play my part, to the glory of a great calling and as a follower of the Great Physician. Amen.

JOHN J. MOORHEAD, M. D.
in a communication to the New York Sun.
(Reprint from J. Med. Soc. N. J.)

NASAL ALLERGY

The discovery, in recent years, of nasal allergy has thrown much light on diseases of the accessory sinuses and has explained many of our failures in the past. It is estimated that about 25 per cent of the patients in ordinary rhinologic practice have in them some element of allergy, a fact we are just beginning to appreciate.

For years nasal allergy paraded under a long list of pseudonyms, hyperesthetic rhinitis, spasmodic rhinorrhea, rhinitis nervosa. We recognize them today as allergic rhinitis. One of the most frequent and baffling types of case in years gone by has been that of nasal polyposis, constantly recurring despite repeated operation. Today we realize that its cure depends, not on surgery, but on the discovery of the offending allergens. True, polypi may result from nasal infection, but such polypi are much more easily controlled by operation and have much less tendency to recur when the infection has been eradicated.

Allergy, of course, does not explain all nasal disease. Acute and chronic infection still take heavy toll of the accessory sinuses and are still amenable, in most cases, to surgical treatment. But we now realize that an uncontrolled allergy will probably vitiate surgical treatment of the sinuses, treatment which should not be undertaken till the allergic factors have been eradicated so far as possible. Naturally, one would not hesitate to initiate surgical treatment in the allergic patient, in cases of acute infection with intention, orbital abscess, or osteomyelitis. Minor procedures, such as removal of obstructing polypi or resection of deflected obstructing septae, may also be properly done with good result in allergic cases. Our knowledge of allergy has greatly clarified surgical indications but it has not rendered sinus surgery obsolete.

—*Minn. Med.*

CHICAGO SELECTED FOR 1942 CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

Because of the war, the thirty-second annual Clinical Congress of the American College of Surgeons will be held in Chicago October 19 to 23, instead of in Los Angeles as originally planned. Headquarters will be at the Stevens Hotel. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously. The programs of both meetings will be based chiefly on wartime activities as they affect surgeons and hospital personnel in military and civilian service.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Atlantic City, N. J., by the entire Board, prior to the opening of the annual meeting of the American Medical Association in Atlantic City, on June 8, 1942.

SULFADIAZINE ABSTRACT BOOKLET A CONVENIENCE TO PHYSICIANS

With the usefulness of Sulfadiazine growing rapidly, it was felt that a booklet containing abstracts of significant recent articles would be of real convenience to physicians and others working with this important Sulfa drug. Accordingly, Lederle Laboratories, Inc, New York, N. Y. have recently made available a 64-page booklet, "Abstracts Selected from Published Articles on Sulfadiazine."

In order to compress significant material into a booklet of this size, every article on the subject appearing up to December 1, 1941, has been examined. Articles which contained only minor evidence as well as those which overlapped or reworked prior authorities have been eliminated. At the same time, no attempt was made to select the most favorable articles. The result is

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Phosphorus	1.32 Gm.	0.9 Gm.	2/3	67%
Iron	15 mg.	0.2 to 0.5 mg.	1/30	3%
Vitamin A	5000 to 6000 I. U.	900 to 1800 I. U.	1/3	33%
Thiamin	250 to 300 I. U.	60 I. U. (raw milk)	1/5	20%
Ascorbic acid	500 I. U.	520 I. U. raw milk)	1	100%
Vitamin D	400 I. U. (for children)	40 I. U. (summer milk)	1/10	10%
Nicotinic acid	10 to 15 mg.	4 to 12 mg., roughly	1/3	33%
Riboflavin	1 to 2 mg.	2 to 2.5 mg.	1	100%

—Med. Times.

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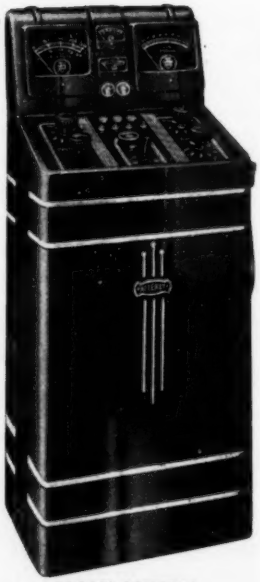

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a terse, but authoritative review of material on Sulfadiazine, arranged topically for convenient reference. In most instances selected articles have been condensed to one page or less. In every case, bibliographies are supplied for those wishing to study the articles in full. This new booklet is available through Lederle representatives, or on request from Lederle Laboratories, Inc., 30 Rockefeller Plaza, New York, N. Y.

BOOK NOTES

L. O. DUTTON, M. D.
(Book Review Editor)
Mills Bldg., El Paso, Texas

LEADERS OF MEDICINE. Biographical Sketches of Outstanding American and European Physicians, by Soloman R. Kagan, M. D.: the Medico-Historical Press, Boston, Massachusetts, 1941. $3.00.

This volume of 176 pages contains 12 essays upon the lives of as many great physicians, several illustrations and an index.

Who is there of the modern physicians who does not wish to know the essential facts of such men as Henle, Virchow, Mitchell, Allbutt, Solis-Cohen, J. S. Billings, Cohnheim, Weigert, Osler, Welch and Ehrlich, and has time only for succint reports?

This volume by that well recognized writer Kagan gives the reader all and more, about each of the above well-remembered physicians, than he can usually read at one sitting, and certainly a lot more than he will usually remember. The story of the life of the great Osler is in itself worth the price of the book.

The publishers have certainly taken a delight in the appearance of the volume.—*O. H. Brown*

THE ART AND SCIENCE OF NUTRITION, by Estele E. Hawley, Ph. D., and Grace Carden, B. S. The University of Rochester, School of Medicine and Dentistry, Rochester, N. Y. The C. V. Mosby Co., St. Louis, Mo.

This is an extremely timely volume, written for the nurse and for the dietician who wishes to have some fundamental knowledge of nutrition, as well as to have adequate instruction and reference in the field of practical dietetics.

The book is divided into five parts. Part one covers the field of nutrition and metabolism, considering normal digestion and metabolic activities and the classification of food substances. There is a chapter on water balance and the essentials of an adequate diet, with some consideration on planning a general normal diet.

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Part two discusses the food requirements under special conditions, considering such circumstances as pregnancy, lactation, disease, and diet in old age.

Part three gives a survey of the usefulness of diet as a therapeutic means in such conditions as diabetes, gout, Addison's disease, celiac disease, and so forth.

Part four is a highly practical and valuable reference section for the dietician on the choice, preparation, and serving of food. This section is in meticulous detail, even considering such items as the washing of dishes, care of the sink and the refrigerator.

Part five consists of a list of references from which more extensive information may be gained, and part six is an appendix devoted mainly to tabular information concerning vitamin contents, and so on.

The volume contains 140 illustrations which are chosen with care to illustrate points in the text. It contains a wealth of important material, is readable, and should serve either as a textbook or as a reference book, both for class work and for workers in this field. —*L. O. Dutton.*

CANCER OF THE FACE AND MOUTH, by Vilray P. Blair, M. D.; Sherwood Moore, M. D., and Louis T. Byers, M. D. St. Louis. The C. V. Mosby Co. Price $10.00.

This volume is a record of the experiences and opinions the authors have gained from the care of 1500 cases of epithelial malignancy occurring in or about the face or mouth. Throughout, emphasis is laid on the surgical treatment of these patients, but their care and management is discussed in considerable detail, both from the standpoint of general care as well as specific treatment of the lesion itself.

Cancer of different locations, such as the ears, nose, tongue and buccal mucosa are considered in separate chapters and about each of these there is much general discussion as well as specific case histories and illustrations.

There is a chapter on anaesthesia, and a chapter on radiation therapy. The authors make a plea for the complete use of all available aids in the treatment of cancer of the face and mouth, but decidedly favor surgical removal as the treatment of choice. They feel that radiation therapy is most useful as an aid to surgical treatment, or as treatment of the truly inoperable case. They also make a plea for cooperation between the

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surgeon and the radiotherapist and ask that each of these recognize the value of the other.

Three hundred and seventy pages of this readable volume are devoted to the discussions just enumerated, while the remainder of the six hundred pages is devoted to operative technique. This is presented in a series of line drawings which are explained by concise but adequate legends which present surgical technique with great clarity.

The author states that one of the fundamental purposes of this volume is to supply adequate data and information upon which practitioners, who first see these cases, may predicate careful and reliable information as to what may be done. They state that a great percentage of failure in the treatment of cancer is due to inadequate first advice, and they make a plea that the profession make an attempt to overcome this fault so that adequate treatment may be furnished the cancer patient at the earliest possible moment. The volume is very readable, is profusely illustrated, and should certainly be in the library of all who offer advice for treatment to such patients. —*L. O. Dutton.*

EVERYDAY NURSING FOR THE EVERYDAY HOME. by Elinor E. Norlin, R. N., teacher of hygiene and home nursing, Julia Richman High School, New York City: and Bessie M. Donaldson, R. N., teacher of hygiene and home nursing, Bay Ridge High School, Brooklyn, N. Y. Illustrations by Mary Simas. 306 pages. The Macmillan Company, New York: 1942. $2.50.

The impression is gained from a study of this book that not only are the authors women of wide experience and acumen in the field in which they write but that they have had advice and criticism from greater authorities than what they are.

The contents of the volume are divided into two parts: nursing to keep well and nursing when illness comes. The first part rightfully deals largely with the child, and hence is or may be of invaluable aid to the young mother; the second part deals with all sorts of methods and modalities of the home, such as heat and cold, the types of beds, enemas, nutrition, keeping of notes, etc.

The illustrations, numerous, are simple line drawings and should prove helpful. Chapter 13 treats of special nursing procedures when a disease is communicable, and chapter 14 of what to do in emergencies arising in the home. The program of what to do means only until the physician comes—he is to be called promptly.

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In the last pages are three important divisions: suggested readings, a glossary and an index. All may be of great help.

I have no hesitation in recommending this book, which is attractive and artistic.

—O. H. Brown.

FUNCTIONAL PATHOLOGY, by Leopold Lichtwitz, M. D., New York: Chief, Medical Division, Montefiore Hospital: Clinical Professor of Medicine, Columbia University. 567 pages; 157 illustrations. Cloth $8.75. Grune & Stratton, Inc., New York.

Functional pathology is presented by the author as the science which analyses the mechanism of symptoms and signs of disease. As suggested by this definition, this book deals more with analysis of the clinical picture than it does with structural pathology. Repeatedly discussions emphasize the relation in function of the various organs and systems in cause or effect of disease. The regulatory action of the central nervous system is stressed, as are the physiology and pathology of the endocrine glands. In explanation of clinical disorders without adequate laboratory findings the author occasionally differs with widely accepted viewpoint, but his reasoning is based on thirty years' study and observation. Many of his own case studies are offered, with illustrations where possible. This book should lead to discussion wherever it is read.

—J. F. Standard.

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